FLORA

BOREALI-AMERICANA;

OR, THE

BOTANY

OF THE

NORTHERN PARTS OF BRITISH AMERICA:

COMPILED PRINCIPALLY FROM

THE PLANTS COLLECTED BY Dr RICHARDSON & Mr DRUMMOND ON THE LATE NORTHERN EXPEDITIONS, UNDER COMMAND OF CAPTAIN SIR JOHN FRANKLIN, R.N.

TO WHICH ARE ADDED

(BY PERMISSION OF THE HORTICULTURAL SOCIETY OF LONDON,)

THOSE OF Mr DOUGLAS, FROM NORTH-WEST AMERICA, AND OF OTHER NATURALISTS;

BY

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FLORA BOREALI-AMERICANA.

(Ord. LI. COMPOSITÆ. *Linn.; continued from Vol. I.*)

Trib. V. Asteroideæ. *Less.*

Subtrib. I. Astereæ. *Less. Capitula nunquam dioica, plerumque heterogama, floribus* ♀ *in ambitu aut uni- aut, si pluriserialibus, corollas tunc lingulatas gerentibus, floris busque* ☿ *in centro. Rachis plerumque ebracteolata aut, ubi bracteolata, pappus perfectus et multiradiatus. ntheræ ecaudatæ. Less.*

52. SOLIDAGO.* *L.*

Radius fœmineus uniserialis. *Discus* hermaphroditus. *Pappus* uniserialis, pilosus *Achenium* teretiusculum, multicostatum.—Herbæ *plerumque Americanæ et elatæ, pauciores. Europeæ vel Asiaticæ, foliis alternis integris: capitulis parviusculis luteis plerumque in cymas scorpioides dispositis et secundis; involucris imbricatis, polyphyllis, rachis* (seu receptaculum) *nuda. Less.*

* *Racemis secundis; foliis subtriplinerviis.*

1. *S. Canadensis;* caule villoso erecto, foliis lanceolatis serratis triplinerviis scabris, racemis paniculatis secundis recurvis, ligulis abbreviatis. *Ait.—Linn.—Ait. Hort. Kew. ed.* 1. *v.* 3. *p.* 210. *Pursh, Fl. Am. v.* 2. *p.* 535. *Elliott, Carol. v.* 2. *p.* 389.—β. foliis angustioribus, floribus minus secundis.

Hab. Throughout Canada, and from Lake Huron to Fort Franklin, on the Mackenzie River. β. Columbia. *Douglas.*—A very polymorphous plant, as Willdenow well observes, varying in the height of the stem, in the entire or serrated leaves, and in the greater or lesser depth of the serratures. One specimen which I possess, tallying with the *S. Canadensis* of Herb. Banks., is from Boston, and has much more numerous leaves,

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* A genus, Lessing observes, only differing from *Aster* in its rounded, many-ribbed, not plano-compressed and bicostate *achenia*, but easily distinguished by the habit, and by the colour (yellow) of the flowers.—In the determination of the species, attended perhaps with more difficulty than that of the species of any other genus, save its near ally, *Aster*, I have been greatly aided by Dr. Boott. As the Hortus Kewensis was the authority for a considerable number of species, the comparison of specimens with the Banksian Herbarium, where original specimens are preserved, became essentially necessary: and this Dr. Boott has most kindly accomplished for me. Still, as to the limits of the species, or the value of the relative characters, I dare scarcely offer any opinion.

and smaller flowers than our other specimens. The γ. of Herb. Banks. and Hort. Kew. *foliis subtus villosis*, we have from Canada. Messrs. Lay and Colley have gathered *S. Canadensis* in California. It is omitted by Michaux.

2. *S. procera;* caule villoso erecto, foliis lanceolatis serratis triplinerviis scabris subtus villosis, racemis spiciformibus erectis interruptis nutantibus, ligulis abbreviatis. *Ait. Hort. Kew. ed.* 1. *v.* 3. *p.* 211. *Pursh, Fl. Am. v.* 2. *p.* 535. *Rich. in Frankl.* 1*st Journ. ed.* 2. *App. p.* 33.

Hab. Canada. *Pursh.*—Woody country between lat. 54° and 64°.

3. *S. serotina;* caule erecto tereti lævi, foliis lineari-lanceolatis glabris margine asperis serratis triplinerviis, racemis paniculatis secundis. *Ait. Hort. Kew. ed.* 1. *v.* 3. *p.* 211. *Pursh, Fl. Am. v.* 2. *p.* 535.—β. *minor;* foliis angustioribus.

Hab. Lake Huron. *Dr. Todd.* Newfoundland. *Miss Brenton.* Columbia River and De Fuca, N.W. America. *Dr. Scouler.*—β. Saskatchawan. *Drummond.*

4. *S. gigantea;* caule erecto glabro, foliis lanceolatis glabris serratis margine scabris triplinerviis, racemis paniculatis secundis, pedunculis hirtis, ligulis abbreviatis. *Ait. Hort. Kew. ed.* 1. *v.* 3. *p.* 211. *Pursh, Fl. Am. v.* 2. *p.* 535.—β. racemis brevioribus obtusis.

Hab. Canada. *Cleghorn.* Plains of the Red River. *Douglas.* Fort Vancouver. *Dr. Scouler.*—β. Saskatchawan. *Drummond.*

5. *S. lateriflora;* caule erecto pilosiusculo, foliis lanceolatis subtriplinerviis glabris margine scabris, inferioribus subserratis, racemis paniculatis subrecurvis secundis. *Ait.—Linn.—Ait. Hort. Kew. ed.* 1. *v.* 3. *p.* 211. *Pursh, Fl. Am. v.* 2. *p.* 536. *Elliott, Carol. v.* 2. *p.* 370.

Hab. Canada. *Pursh.*—"Not more than half the size of *S. Canadensis;* flowers larger than any of this division." *Ph.*—Probably all the "triple-nerved" species might, without violence to nature, merge into one.

* * *Racemis secundis; foliis venosis.*

6. *S. altissima;* caule erecto hirto, foliis lanceolatis scaberrimis rugosis serratis enerviis, paniculis secundis. *Ait.—Linn.—Ait. Hort. Kew. ed.* 1. *v.* 3. *p.* 212. *Pursh, Fl. Am. v.* 2. *p.* 536. *Elliott, Carol. v.* 2. *p.* 571.

Hab. Canada. *Mrs. Percival. Mr. Cleghorn.*

7. *S. rugosa;* caule erecto hirto, foliis lanceolatis inferioribus adpresso-serratis scaberrimis rugosis, racemis paniculatis secundis patentissimis. *Willd.—Mill. Dict.—Willd. Sp. Pl. v.* 3. *p.* 2058. *Pursh, Fl. Am. v.* 2. *p.* 537. *Elliott, Carol. v.* 2. *p.* 574.—S. altissima. ? *Ait. Hort. Kew. ed.* 1. *v.* 3. *p.* 213.

Hab. Canada. *Pursh.* Lake Huron. *Dr. Todd.* (Small and young specimens.)

8. *S. villosa;* caule erecto villoso, foliis lanceolatis molliusculis serratis enervibus, racemis paniculatis secundis. *Herb. Banks. MSS.—Pursh, Fl. Am. v.* 2. *p.* 537. *Elliott, Carol. v.* 2. *p.* 372.—S. pilosa. *Mill. Dict.*—S. altissima. β. *Ait. Hort. Kew. ed.* 1. *v.* 3. *p.* 212.

Hab. Canada. *Lady Dalhousie.* Lake Huron, *Dr. Todd.* Newfoundland. *Miss Brenton.* Labrador. *Dr. Morrison.*

9. *S. nemoralis;* caule erecto tomentoso, foliis caulinis lanceolatis hispidis integerrimis, radicalibus subcuneiformibus serratis, racemis paniculatis secundis. *Ait. Hort. Kew. ed.* 1. *v.* 3 *p.* 213. *Pursh, Fl. Am. v.* 2. *p.* 537. *Elliott, Carol. v.* 2. *p.* 373.

HAB. Canada, *Pursh. Dr. Holmes. Goldie. Mr. Cleghorn.* Red River. *Mr. Douglas.* Plains of the Saskatchawan. *Drummond.*—The grey aspect of this plant, mentioned by Pursh, is very striking in my specimens.

10. *S. juncea;* caule erecto glabro, foliis lanceolatis glabris margine scabris, inferioribus serratis, racemis paniculatis secundis. *Ait. Hort. Kew. ed.* 1. *v.* 3. *p.* 213. *Elliott, Carol. v.* 2. *p.* 375? *Rich. in Frankl.* 1*st Journ. ed.* 2. *App. p.* 33.

HAB. Woody country between lat. 54°. and 64°. *Dr. Richardson.*

11. *S. arguta;* caule erecto glabro, foliis glabris argute inæqualiter serratis, caulinis ellipticis, radicalibus ovato-oblongis, racemis paniculatis secundis, ligulis elongatis. *Ait. Hort. Kew. ed.* 2. *v.* 3. *p.* 213. *Pursh, Fl. Am. v.* 2. *p.* 538. *Elliott, Carol. v.* 2. *p.* 374.

HAB. Canada. *Pursh.*—I possess no specimen of this from the British Settlements; but I have very beautiful ones from Dr. Darlington and Mr. Townsend from Pennsylvania, which have been compared with those in the Banksian Herbarium.

12. *S. asperata;* caule paniculato-corymboso, racemis suberectis, floribus adscendentibus, foliis lanceolatis serratis scabris. *Herb. Banks. MSS.—Pursh, Fl. Am. v.* 2. *p.* 528.

HAB. Canada. *Herb. Banks.*

13. *S. sempervirens;* caule erecto glabro, foliis lineari-lanceolatis subcarnosis lævibus integerrimis margine scabris, racemis paniculatis secundis, pedunculis pilosis. *Ait.—Linn. —Ait. Hort. Kew. ed.* 1. *v.* 3. *p.* 214. *Pursh, Fl. Am. v.* 2. *p.* 538. *Elliott, Carol. v.* 2. *p.* 379.

HAB. Canada. *Pursh.*—My Herbarium contains only one specimen of this, from Dr. Darlington of West Chester, received as "*S. limoniifolia,*" which exactly corresponds with *S. Sempervirens* of *Banks. Herb.*

14. *S. odora;* caule erecto pubescente, foliis lineari-lanceolatis integerrimis glabris margine scabris, racemis paniculatis secundis. *Ait. Hort. Kew. ed.* 1. *v.* 3. p. 214. *Pursh, Fl. Am. v.* 2. *p.* 539. *Elliott, Carol. v.* 2. *p.* 376. *Plukn. Alm. t.* 116. *f.* 6.

HAB. Canada. *Pursh.*—Of this, likewise, I possess no British-American specimens; but I have numerous ones from the United States. Pursh says "It is most generally and principally known among the inhabitants by the name of *Golden-rod,* and used as a wholesome tea. The flowers, gathered when fully expanded and carefully dried, give a most agreeable substitute for tea, which for some time has been an article of exportation to China, where it fetches a high price."

* * * *Racemis erectis; foliis venosis.*

15. *S. bicolor;* caule foliisque ellipticis pilosis, inferioribus serratis, ramis foliolosis, racemis erectis, involucri foliolis obtusis. *Ait.—Linn.—Ait. Hort. Kew. ed.* 1. *v.* 3. *p.* 216. *Mich. Am. v.* 2. *p.* 116. *Pursh, Fl. Am. v.* 2. *p.* 537. *Elliott, Carol. v.* 2. *p.* 382.

HAB. Canada. *Pursh.* Saskatchawan. *Drummond.*—Rays of the flowers said to be nearly white: but

the Saskatchawan specimens appear to be yellow, as do some from Dr. Short (Kentucky); while others in the same Collection seem to be white.

16. *S. lanata;* tota arachnoideo-lanata, foliis spathulato-lanceolatis adpresso-serratis inferioribus petiolatis superioribus parvis integerrimis, racemis erectis terminalibus subsimplicibus, involucri foliolis obtusis glabriusculis.

Hab. Plains of the Saskatchawan, near the Rocky Mountains. *Drummond.*—There is only one specimen of this very well marked species in the Collection. It will rank between *S. bicolor* and *S. petiolaris.*

17. *S. stricta;* caule erecto glabro, foliis caulinis lanceolatis integerrimis glabris margine scabris, radicalibus serratis, racemis paniculatis erectis, pedunculis glabris. *Ait. Hort. Kew. ed.* 1. *v.* 3. *p.* 216. *Pursh, Fl. Am. v.* 2. *p.* 540. *Elliott, Carol. v.* 2. *p.* 383. *Rich. in Frankl.* 1*st Journ. ed.* 2. *App. p.* 33.

Hab. Lake Huron. *Dr. Todd.* Woody country between lat. 54° and 64°. *Dr. Richardson.* Carlton House on the Saskatchawan. *Drummond.*

18. *S. confertiflora; (Nutt. MSS. in Herb. Boott.)* robusta, caule crasso superne pubescente, foliis glabris inferioribus latissimis ovali-spathulatis serratis acutis marginibus scabris, superioribus sessilibus lanceolato-ellipticis integerrimis, racemis glomeratis rigidis pubescentibus, involucri multiflori foliolis squamosis, radiis elongatis 10–12.—S. squamosa. *Nutt. Gen. Am. v.* 2. *p.* 161. (non *Muhl.*)—S. glomerata. *Mich.?* (Boott.) *Elliott, Carol. v.* 2. *p.* 387?

Hab. Canada. *Mrs. Sheppard. Mr. Goldie. Lady Dalhousie.*—I have received this very fine and distinct species from about Boston, (*B. D. Greene, Esq.*) and from New-York and New-Jersey. (*Dr. Torrey.*)

19. *S. lævigata;* caule erecto lævi, foliis lanceolatis carnosis integerrimis undique lævibus, racemis paniculatis erectis, pedunculis squamosis villosis, ligulis elongatis. *Ait. Hort. Kew. ed.* 1. *v.* 3. *p.* 215. *Pursh, Fl. Am. v.* 2. *p.* 541.

Hab. Canada. *Pursh.*—My specimen from the New England States, which has been compared with the one in the Banksian Herbarium, does not appear to me to differ from *S. Mexicana,* L., of which, too, Pursh seems to consider it a variety.

20. *S. viminea;* caule erecto subpubescente, foliis lineari-lanceolatis membranaceis basi attenuatis glabris margine scabris, infimis subserratis, racemis erectis, ligulis elongatis. *Ait. Hort. Kew. ed.* 1. *v.* 3. *p.* 215. *Pursh, Fl. Am. v.* 2. *p.* 541.

Hab. Canada. *Pursh.*

21. *S. macrophylla;* foliis inferioribus ovatis acuminatis attenuatis inæqualiter argute serratis glabris, caulinis lanceolatis utrinque attenuatis subsessilibus serratis, racemis axillaribus pedunculatis foliosis longitudine foliorum, involucris oblongis turgidis multifloris, ligulis subelongatis. *Herb. Banks. MSS.—Pursh, Fl. Am. v.* 2. *p.* 542.

Hab. Canada. *Herb. Banks. (Ph.)*

22. *S. flexicaulis;* caule (plerumque) flexuoso glabro angulato, foliis serratis glabris, racemis erectis glomeratis axillaribus folio multo brevioribus—*α.* foliis lanceolatis.—S. flexicaulis. *Linn. Herb.* (fide *Boott.*) *Ait. Hort. Kew. ed.* 1. *v.* 3. *p.* 317. *Pursh, Fl. Am. v.* 2. *p.* 542. *Elliott, Carol. v.* 2. *p.* 386.—S. axillaris. *Herb. Banks.—Pursh, Fl. Am. v.* 2.

p. 542.—S. cæsia. *Linn.* (not in Herb. Linn.) *Ait. Hort. Kew. ed.* 1. *v.* 3. *p.* 217. *Pursh, Fl. Am. v.* 2. *p.* 540. *Dill. Elth. t.* 307. *f.* 395.—*β. latifolia;* foliis ovatis superioribus minoribus, racemis subpaniculatis.—*Willd.*—*Pursh, Fl. Am. v.* 2. *p.* 542.—S. latifolia. *Linn. Herb.* (*Boott.*)

HAB. *α.* and *β.* Throughout Canada.—I possess specimens which are exactly intermediate between *S. flexicaulis* and *S. latifolia.* L.

23. *S. Virgaurea;* caule erecto tereti pubescenti (in nostr. exempl. subangulato glabro,) superne (nunc) ramoso, foliis inferioribus ellipticis pilosiusculis serratis, racemis erectis (compositis subsolitariis,) ligulis elongatis. *Ait.*—*Linn.*—*Engl. Bot. t.* 301. *Pursh, Fl. Am. v.* 2. *p.* 542?

HAB. Labrador? *Kohlmeister;* (Surely this must be *S. multiradiata.*) Woody country between lat. 54° and 64°. *Dr. Richardson.* Saskatchawan. *Drummond.*—Our specimens are mostly glabrous, and are nearly a foot high, agreeing with our British var. called *Cambrica.* The same is found by Mr. Greene near the summit of Mount Washington, on the White Mountains, U. S.

24. *S. multiradiata;* caule villosiusculo, foliis sessilibus lanceolatis glabris ciliatis, inferioribus apice serratis, racemo terminali erecto (dense corymboso) ligulis elongatis numerosis. *Ait. Hort. Kew. ed.* 1. *v.* 3. *p.* 218. *Pursh, Fl. Am. v.* 2. *p.* 542.—S. Virgaurea. *Ph.*?

HAB. Labrador. (*Herb. Banks.*) *Kohlmeister. Dr. Morrison.* Bay of Eschscholtz. *Chamisso.* Prairies of the Rocky Mountains. *Drummond.* Mackenzie River and Bear Lake. *Dr. Richardson.*—Most of my specimens of this plant have the terminal raceme forming a broad dense corymb or head; in which particular almost alone does it differ from *S. Virgaurea;* and the Rocky Mountain specimens appear almost intermediate. Chamisso's *S. Virgaurea*, in my Herbarium, from Kotzebue's Sound, is the same as our *S. multiradiata*, and I fear the two can hardly be considered more than varieties.

25. *S. humilis;* gracilis, caule erecto simplici glabro, foliis lanceolatis glabris inferioribus longe petiolatis serratis superioribus linearibus integerrimis, racemo elongato terminali solitario erecto.—*Herb. Banks. MSS. Pursh, Fl. Am. v.* 2. *p.* 543. *Rich. in Frankl.* 1*st Journ. ed.* 2. *App. p.* 33.

HAB. Woody country between lat. 54°. and 64°. *Dr. Richardson.*—This, although the true plant of the Banksian Herbarium, I am inclined to consider only an elongated and slender variety of *S. Virgaurea;* the very opposite extreme, in the same species, of *S. multiradiata.*

26. *S. elata;* caule piloso tereti, foliis lanceolatis subtus pilosiusculis, racemis erectis, ligulis elongatis. *Herb. Banks. MSS.*—*Pursh, Fl. Am. v.* 2. *p.* 543.

HAB. North-west coast of America. *Mr. Menzies.*—I regret that my specimen, which is a very indifferent one, will not allow me to offer any additional character to what I find in Pursh.

27. *S. rigida;* caule foliisque ovato-oblongis pilosis scabris, caulinis integerrimis, infimis serratis, ramis floriferis paniculatis, racemis compactis, ligulis elongatis. *Ait. Hort. Kew. ed.* 1. *v.* 3. *p.* 216. *Pursh, Fl. Am. v.* 2. *p.* 543. *Elliott, Carol. v.* 2. *p.* 390.

HAB. Saskatchawan (*Drummond*) and Red River. *Douglas.* About Carlton House. *Dr. Richardson.*

(*Flores glomerati, fastigiato-corymbosi; radii valde minuti. Foliis angustis integerrimis.* Euthamia, Nutt.)

28. *S. lanceolata;* caule erecto glabro ramosissimo, foliis lineari-lanceolatis scabriusculis integerrimis trinerviis, flosculis radii vix disco longioribus.—*Linn.*—*Mant.*—*Ait. Hort. Kew. ed.* 1. *v.* 3. *p.* 214.—*Mich. Am. v.* 2. *p.* 116. (α.) *Pursh, Fl. Am. v.* 2. *p.* 540. *Rich. in Frankl.* 1*st Journ. ed.* 2. *App. p.* 33. (*Euthamia.*)—S. graminifolia. *Nutt. Gen. Am. v.* 2. *p.* 162. *Elliott, Carol. v.* 2. *p.* 391.—β. foliis angustioribus. S. tenuifolia. *Rich. in Frankl.* 1*st Journ. ed.* 2. *App. p.* 33. (non *Pursh.*)—Chrysocoma graminifolia. *Linn.*

Hab. Throughout Canada to lat. 64°. Columbia. *Dr. Scouler. Douglas.*—This plant seems universally diffused through all the woody country of North America. I possess it from California and from Louisiana. Dr. Gillies found it at Mendoza, in extra-tropical South America. I have referred the *S. tenuifolia* of Richardson to a state of this plant, rather than considered it the *S. tenuifolia* of Pursh, which is a southern plant, its extreme northern limit being, I believe, New Jersey.

53. ASTER.* *Cass Nees.* (Asteris *sp. L.*)

Radius fœmineus fertilis. *Involucri foliola* vel laxa pleraque foliacea, vel imbricata nervoque medio e basi membranacea in apicis discum herbaceum rhombeum expanso prædita. *Flosculi* pisci tubo limboque discretis. *Achenia* cuneiformia, compressa, glabra, vel pubescentia et hirta. *Pappus* simplex, persistens, scaber. *Receptaculum* alveolatum. *Nees.*

Sect. I. Alpigeni. *Nees. Ast. p.* 24.

1. *A. alpinus;* foliis radicalibus spathulatis caulinisque integerrimis, involucri foliolis lanceolatis laxis, caule uniflora. *Nees.*—*Linn.*—*Bot. Mag. t.* 199. *Nees, Ast. p.* 26.

Hab. On the more elevated of the Rocky Mountains in lat. 54°. *Drummond.*—Mr. Lindley marks this "exactly *A. alpinus*, var. *Dahuricus.*" It also precisely corresponds with my Swiss specimens.

2. *A. salsuginosus;* foliis lato-lanceolatis acutis subintegerrimis venosis inferioribus in petiolum longe attenuatis reliquis sessilibus caule uni-paucifloro, involucri squamis linearibus acutis pubescentibus subsquarrosis disco vix duplo, radio plus triplo longioribus.—*Rich. in Frankl.* 1*st Journ. ed.* 2. *App. p.* 32. *Hook. Bot. Mag. t.* 2942. *Nees, Ast. p.* 29.—β. foliis angustioribus.

Hab. Salt plains of the Athabasca. *Dr. Richardson.* Rocky Mountains. *Drummond.* Kotzebue's Sound. *Messrs. Lay and Collie.*—β. N. West Coast of America. *Mr. Menzies.*

3. *A. pygmæus;* (*Lindl.*) foliis ovato-oblongis obtusis integerrimis glabris, caule unifloro villoso, involucro hemisphærico laxo subsquarroso villosissimo, foliolis linearibus obtusis.—*Lindl. MSS.*

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* The whole of my Collection of this extensive Genus has been named by the kindness of Dr. Boott and Professor Lindley; the former of whom may be considered excellent authority for the Linnæan and Banksian species: the latter for those of Nees von Esenbeck, whose arrangement I have implicitly followed. Professor Lindley has likewise determined and characterized the new species. For more full characters of the Genus *Aster* and its divisions, as well as other genera of the *Astereæ*, than I can here give, I must refer to the valuable "*Genera et Species Asterearum*" of Dr. Nees von Esenbeck.

Hab. Arctic sea-coast. *Dr. Richardson.*—"*A. salsuginoso* affinis," *(Lindl.)* and perhaps only a dwarf, or hairy variety of it.

4. *A. Richardsonii;* radice repente, caule ramoso uni-multifloro ad apicem dense tomentoso, foliis late oblongis remote dentatis subtus breviter pilosis, calycibus squarrosis, flosculis radii numerosis angustis. *Spreng. Syst. Veget. v.* 3. *p.* 258. *Nees, Ast. p.* 30.—A. montanus. *Rich. in Frankl.* 1*st Journ. ed.* 2. *App. p.* 32. (non *Nutt.*)—A. salsuginosus. *Less. in Linnæa, v.* 6. *p.* 124.—A. Espenbergensis. *Nees, Ast. p.* 36.—*β. gigantea;* magis tomentosus, caule foliisque profunde serratis duplo triplove majoribus.

Hab. Barren country from lat. 64°. to the Arctic Sea. *Dr. Richardson.* Kotzebue's Sound. *Chamisso (in Herb. Nostr.)*—*β.* About Fort Franklin, on the Mackenzie River.—The *A. salsuginosus?* of Lessing, (*A. Espenbergensis,* Nees,) is certainly the *A. montanus* of Dr. Richardson.

5. *A. peregrinus;* foliis oblongo-ellipticis ovatisve acutis integerrimis glabriusculis, caule erecto folioso 1-3-floro seriatim hirto, involucri biserialis foliolis lineari-acuminatis hirtis exterioribus herbaceis. *Nees.—Pursh, Fl. Am. v.* 2. *p.* 556. *Nees, Ast. p.* 33.—A. Tilesii. *Wikstr.*

Hab. Unalaschka. *Dr. Nelson* (in *Herb. Banks.*) *Chamisso.*

6. *A. Unalaschkensis;* foliis lanceolatis ovatove-lanceolatis acuminatis subserratis pubescenti-scabris ciliatis, caule erecto 1-3-floro superne sparse villoso folioso, involucri subæqualis foliolis lineari-acuminatis herbaceis villosis. *Nees.—Less. in Schlecht. Linnæa, v.* 4. *p.* 122.—*Nees, Ast. p.* 34.—*β.? major;* foliis acuminatis, caule multifloro.

Hab. Unalaschka. *Chamisso.*—*β.* Saskatchawan to the Rocky Mountains. *Drummond.* Nees seems to consider this as scarcely distinct from *A. Caucasicus, Willd.* and that it may even be the same with *A. peregrinus.*—Specimens of our *var. β.* in Mr. Drummond's Collection, which Professor Lindley marks "apparently *A. Unalaschkensis, Linn.*" a species which I have not seen, are larger than *A. Caucasicus;* a foot and a half to two feet high, with very thin, membranaceous, indistinctly veined, and scarcely and only very distantly serrated leaves: the flowers similar, but more numerous.

Sect. II. Amelli. *Nees, Ast. p.* 36.

7. *A. biflorus;* foliis lanceolatis serratis scabris, involucri foliolis imbricatis ovatis, caule, subbifloro. *Nees.—Mich. Am. v.* 2. *p.* 114. *Nees, Ast. p.* 39.—A. strictus. *Pursh, Fl. Am. v.* 2. *p.* 556.

Hab. Labrador and Hudson's Bay. *Herb. Banks.* (*Pursh.*)

8. *A. conspicuus;* (*Lindl.*) foliis oblongis erectis basi angustatis grosse serratis pubescentibus ambitu scabris, caule stricto apice corymboso, ramis erectis pubescentibus monocephalis aphyllis, involucri hemisphærici foliolis squamosis acuminatis inferioribus minoribus. *Lindl. MSS.*

Hab. Carlton House on the Saskatchawan River to the Rocky Mountains. *Drummond.*—"*A. spectabili* accedit, foliis latis fere omnibus grosse serratis distinguendus." *Lindl.*

9. *A. Radula;* foliis lanceolatis utrinque attenuatis medio argute serratis rugosis scaberrimis, caule angulato glabriusculo corymboso, racemis paucifloris nudiusculis, involucri

foliolis plurifariam imbricatis oblongis acutiusculis apice patulis. *Nees.—Ait. Hort. Kew. ed.* 1. *v.* 3. *p.* 210. *Pursh, Fl. Am. v.* 2. *p.* 556. *Nees, Ast. p.* 43.

Hab. Nova Scotia. (*Ait.*) Newfoundland. *Miss Brenton. Dr. Morrison. Mr. Cormack.*

10. *A. ascendens;* (*Lindl.*) foliis oblongo-linearibus subspathulatis elongatis integerrimis glabris margine ciliato-scabris, caulibus ascendentibus simpliciter racemosis v. corymbosis, involucri glabri foliolis numerosis acutis patulis. *Lindl. MSS.*

Hab. Banks of the Saskatchawan. *Drummond.*—" Ab *A. Amello* diversus glabritie longitudine foliorum involucrisque foliolis numerosis angustioribus acutioribus; habitu similis." *Lindley;* who further remarks that it comes nearest to a Caucasian form of *A. Amellus.*

11. *A. spathulatus;* (*Lindl.*) foliis spathulatis obtusis integerrimis, ramorum basi dilatatis amplexicaulibus, caule simpliciter racemoso, pedunculis subaphyllis folio breviori-bus, involucri foliolis linearibus acutis erectis tomentosis. *Lindl. MSS.*

Hab. Bear Lake and Fort Franklin, on the Mackenzie River. *Dr. Richardson.*

12. *A. modestus;* (*Lindl.*) foliis lanceolatis acuminatis grosse serratis glabris, caule simplici folioso, corymbo paucifloro foliis supremis breviore, involucri foliolis linearibus acuminatis. *Lindl. MSS.*

Hab. Mountain woods, at the mouth of the Smoking River, lat. 56°. *Drummond.*—" *A. brumalem* nanum refert, sed affinitate *N. Angliæ* proxime sequitur." *Lindl.*

13. *A. Novæ Angliæ;* foliis lanceolatis attenuatis auriculato-amplectentibus integerrimis hispido-scabris, caule stricto corymboso-composito, ramis arcuatis, involucri foliolis laxis angustis. *Nees.—Linn.—Pursh, Fl. Am. v.* 2. *p.* 549. *Nees, Ast. p.* 46. *Elliott, Carol. v.* 2. *p.* 351.

Hab. Canada. *Pursh.*—I possess no northern specimen of this plant. It is common throughout the United States, and is one of the most beautiful of the Genus.

Sect. III. Genuini.

A. *Heterophylli. Nees.*

14. *A. cordifolius;* foliis cordatis serratis petiolatis supra scabris subtus pilosis, caule racemoso-paniculato, ramis paucifoliis laxis, involucro arcte imbricato. *Nees.—Linn.—Pursh, Fl. Am. v.* 2. *p.* 552. *Nees, Ast. p.* 52. *Elliott, Carol. v.* 2. *p.* 364.

Hab. Throughout Canada; abundant.

15. *A. paniculatus;* foliis cordatis serratis petiolatis supra scabris subtus glabris, caule ramisque racemoso-thyrsoideis foliosis strictis involucro laxe imbricato. *Nees.—Ait. Hort. Kew. ed.* 1. *v.* 3. *p.* 207. *Nees, Ast. p.* 53.—*var.* δ.? floribus majoribus, foliis subcarnosis, infimis solummodo subcordatis.

Hab. Canada. *Pursh.* Saskatchawan. *Drummond.*—δ. Slave Lake. *Dr. Richardson.*—"There is," as Dr. Boott justly observes, "great confusion about the heart-leaved *Asters.* Mr. Nuttall says that *A. paniculatus* is not distinct from *A. undulatus,* and that *A. heterophyllus* is not distinct from *A. cordifolius.*" Professor Lindley remarks, upon one of my specimens from Dr. Short, of *A. paniculatus,* that "it approaches *A. undulatus.*" The probability is that they are all forms of one and the same species: though I must observe that I have myself seen noacknowedged *undulatus* and *heterophyllus* from British North America.

16. *A. sagittifolius;* * foliis radicalibus petiolatis cordato-subsagittatis (vel et profunde cordatis) oblongis glabris inæqualiter serratis margine scabris, caulinis ovato-oblongis in petiolum alatum contractis serratis glabris, caule racemoso-composito, involucro arcte imbricato. *Nees.—Willd. Sp. Pl. v.* 3. *p.* 2035. *Pursh, Fl. Am. v.* 2. *p.* 551. *Nees, Ast. p.* 56. *Elliott, Carol. v.* 2. *p.* 362.

Hab. Lake Huron. *Dr. Todd.* Montreal. *Mr. Cleghorn.* Red River. *Douglas.*

B. *Homophylli.*

17. *A. Cornuti;* foliis oblongis profunde serratis in petiolum attenuatis supra pube minutissima adspersis subtus glabris margine scabris, caule ramoso-paniculato, involucro laxo imbricato. *Nees.*—*a.* caule multifloro, floribus minoribus, radio angustiore, ramis paniculæ longioribus erectis. *Nees.—Wendl.—Nees, Ast. p.* 58.—A. Tradescanti. *Hoffm.*—A. patulus. *Lam.*—A. tardiflorus. *Herb. Linn.* (fide *Lindl.*)

Hab. Canada. *Mr. Cleghorn.*

18. *A. acuminatus;* foliis ovato-lanceolatis serratis in petiolum adnatum decurrentibus supra scabris subtus lævibus, caule racemoso, ramis brevibus thyrsoideis simplicibusve, involucri laxe imbricati foliolis lanceolatis. *Nees.—Mich. Am. v.* 2. *p.* 109. *Pursh, Fl. Am. v.* 2. *p.* 555. *Hook. Bot. Mag. t.* 2707. *Elliott, Carol. v.* 2. *p.* 355.

Hab. Canada. *Mr. Cleghorn. Mrs. Sheppard. Lady Dalhousie. Mrs. Percival.*

19. *A. præcox;* foliis ovato-lanceolatis patenti-serratis in petiolum adnatum attenuatis glabris supra in ambitu scabris basin versus ciliatis, radicalibus ovatis petiolatis, caule racemoso, ramis paucifloris basi nudis, involucro laxo subæquali.—*Nees.—Willd. En. Hort. Berol. Suppl. p.* 58. *Nees, Ast. p.* 62.

Hab. Fort Franklin, on the Mackenzie River. *Dr. Richardson.*

20. *A. ciliolatus* (*Lindl.*); foliis omnibus ovatis medio argute serratis in petiolum abrupte angustatis ciliatis in ambitu scabris, caule simplici, capitulis axillaribus sessilibus v. brevipedicellatis subsolitariis, involucri foliolis erectis apice membranaceis. *Lindl. MSS.*

Hab. Slave Lake. *Dr. Richardson.*—"Valde affinis *A. præcoci;* differt foliis abrupte nec sensim in petiolum angustatis caulinisque radicalibus conformibus conspicue per totum ambitum ciliatis, capitulis subsessilibus dimidio minoribus, involucri foliolis non apice herbaceis, denique statura humili." *Lindl.*—The very few specimens in the Collection are 6–8 inches high.

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* Allied to this is an interesting new species found by Dr. Short, on cliffs of the Kentucky River, which I am anxious should bear the name of its estimable discoverer, an excellent and liberal Botanist. Professor Lindley has favoured me with the following character and remarks:—

"*A. Shortii;* foliis subtus pilosiusculis ambitu scabris, caulinis alte cordato-lanceolatis acuminatis pone basin grosse serratis integrisve ramulorum cordato-ovatis omnibus petiolatis, petiolis apteris, caule racemoso vel racemoso-composito, involucro imbricato.—Rete foliorum maximum. *A. diversifolio* proximus, inter eam speciem et *A. sagittifolium* collocandus, foliis omnibus cordatis acuminatis petiolatis petiolisque ne minime quidem alatis apteris distinguendus." *Lindl.*

21. *A. puniceus;* foliis oblongo-lanceolatis amplectentibus acuminatis medio adpresso-serratis supra scabris, caule hispido patulo-racemoso, ramis inferis racemosis, superis simplicibus, involucri laxi foliolis lineari-subulatis æqualibus. *Nees.—Linn. Hort. Cliff. p.* 408. *Mich. Am. v.* 2. *p.* 115. *Pursh, Fl. Am. v.* 2. *p.* 554. *Elliott, Carol. v.* 2. *p.* 355.

HAB. Canada to Hudson's Bay.

22. *A. vimineus;* foliis lanceolatis amplectentibus longe acuminatis medio subulato-serratis margine scabris, caule racemoso-composito pyramidali lævi, ramis virgatis apice racemosis, involucri laxi foliolis lanceolato-linearibus subæqualibus. *Nees.—Willd. Sp. Pl. v.* 3. *p.* 2046. *Nees, Ast. p.* 68.

HAB. Canada. (*Nees.*) Lake Huron. *Dr. Todd.*—This is Nees' *A. vimineus:* but Dr. Boott considers it as probably a variety of *A. puniceus.*

23. *A. laxifolius;* foliis anguste lanceolatis utrinque attenuatis mucronato-serrulatis flaccidis supra scabris, caule scabro racemoso-composito angusto, ramis apice racemosis vel subcompositis, involucri foliolis linearibus squarrosis floris primarii subæqualibus. *Nees, Ast. p.* 59.—A. salicifolius. *Rich. in Frankl. 1st Journ. App. p.* 748. (*excl. syn.*)—A. longifolius. *Nees, Syn. Ast. p.* 26.—β. foliis angustioribus fere integerrimis.

HAB. Woody country from lat 54° to 64°. *Dr. Richardson.* Rocky Mountains, in swampy places, to Hudson's Bay. *Drummond.* Near Quebec. *Mrs. Percival.*—β. Rocky Mountains. *Drummond.* Slave Lake. *Dr. Richardson.*—This is a very distinct and well marked species. The more northern specimens have the narrowest leaves. I possess the same plant from Philadelphia, sent to me by Dr. Griffith.

24. *A. amplus* (*Lindl.*); foliis oblongo-lanceolatis margine scabris subintegerrimis, caule simplici subcorymboso, ramis unifloris subaphyllis, involucro laxo imbricato. *Lindl. MSS.*

HAB. Rocky Mountains. *Drummond.—A. brumali* affinis: foliis capitulisque multo majoribus, caule simplici subcorymboso ramisque rigidis pilosis fere aphyllis nec virgatis glabris foliosis, bene distinguitur? *Lindl.*

25. *A. blandus;* foliis subamplexicaulibus oblongo-lanceolatis acuminatis serratis glabris, caule pyramidato-ramoso, ramis axillaribus racemifloris folio vix longioribus, pedunculis tomentosis nudis, involucris laxis subæqualibus disco brevioribus. *Herb. Banks. MSS.—Pursh, Fl. Am. v.* 2. *p.* 555. *Nees, Ast. p.* 76.

HAB. Canada. (*Herb. Banks.*)

26. *A. luxurians;* foliis ovali-oblongis vel lanceolatis acuminatis basi attenuata amplectentibus medio argute serratis supra scabris glaucescentibus, caule paniculato, ramis apice corymboso-racemosis, ramulis unifloris, involucri foliolis laxe imbricatis lineari-lanceolatis acutis. *Nees, Ast. p.* 83.—A. Novi Belgii. *Nutt.* (fide *Nees.*)—β. caule magis composito magisque piloso-lineato.—A. luxurians. *Spreng. Syst. Veget. v.* 3. *p.* 538.

HAB. β. Canada. *Mrs. Percival.*—This, which Professor Lindley, and, I doubt not, correctly, refers to *A. luxurians* β. of *Nees*, Dr. Boott considers *A. tardiflorus, Nees,* (not *Linn.*) while another, equally quoted by Dr. Lindley under *A. luxurians,* β. Dr. Boott calls *A. Novi Belgii,* δ. *minor.* The three are perhaps not really different.—Nearly allied to this is a specimen of an *Aster* from Dr. Scouler, gathered on the Columbia, which Professor Lindley inclines to refer to *A. asper.*

27. *A. adulterinus;* foliis oblongo-lanceolatis mucronatis amplectentibus lævibus margine scabris, caule e basi paniculato-decomposito, ramis corymboso-racemosis, involucri obovati subæqualis foliolis spathulato-lanceolatis squarrosis post florescentiam magis auctis. *Nees.—Willd.—Pursh, Fl. Am. v. 2. p.* 558.

Hab. Straits of De Fuca. *Dr. Scouler.*—Dr. Nees von Esenbeck doubts if this may not be a variety of *A. Novi Belgii.*

28. *A. Douglasii* (*Lindl.*); foliis lineari-lanceolatis versus basin angustatis glabris omnibus (exceptis supremis) serratis, caule racemoso-composito, ramis pauce foliosis oligocephalis laxe corymbosis, involucri laxi subæqualis foliolis linearibus acutis. *Lindl. MSS.*—α. ramis abbreviatis pleiocephalis, capitulis minoribus.—β. ramis gracilioribus elongatis oligocephalis subaphyllis, capitulis majoribus. *Lindl.*

Hab. α. Common on the N. W. Coast, near the confluence of the Columbia, in open undulating grounds. *Douglas.*—β. De Fuca. *Dr. Scouler.*—" *A. eminenti* proximus." *Lindl.*

29. *A. bellidiflorus;* foliis lanceolatis adpresso-serrulatis margine scabris ramulorum lanceolato-acuminatis subulatisve apice recurvis, caule stricto racemoso-decomposito supradecompositove angusto inferne glaberrimo albo-virgato purpurascenteve, ramis apice racemosis racemosove-compositis, floribus confertis, involucri foliolis imbricatis linearibus acutis, interioribus apice sæpe coloratis. *Nees.—Willd. Hort. Berol. v. 2. p.* 886. *Pursh, Fl. Am. v. 2. p.* 554. *Nees, Ast. p.* 97.

Hab. Canada. *Mrs. Sheppard. Dr. Holmes.* Saskatchawan. *Drummond.* Red River. *Douglas.*—This certainly bears considerable resemblance to *A. laxifolius*, Nees, to which indeed Dr. Boott refers it.

30. *A. parviflorus;* foliis lanceolatis acuminatis medio argute serratis supra in ambitu scabris ramulorum (pedunculorum) linearibus acutis patentibus, caule racemoso-decomposito ramisque apice corymbosis strictis, involucri foliolis imbricatis linearibus acutis, radii ligula lineari foliolis involucri interioribus paullo longiore. *Nees, Ast. p.* 99.

Hab. Canada. *Pursh. Dr. Holmes.*

31. *A. Lamarckianus;* foliis lanceolatis acuminatis adpresso-serratis supra scaberrimis ramulorum lanceolato-acuminatis patentibus, caule piloso-lineato racemoso-decomposito coarctato, ramis paniculato-racemosis, involucri laxi subæqualis foliolis linearibus. *Nees, Ast. p.* 100.—A. Tradescanti. *Willd.*—A. paniculatus. *Lam.*

Hab. Canada. (*Lamarck.*) Saskatchawan. *Dr. Richardson. Drummond.*—To me this appears very similar to the preceding. Nees considers it unlike any species but *A. divergens.*

32. *A. divergens;* foliis lanceolatis acuminatis medio mucronato-serratis in ambitu scabris ramulorum oblongo-lanceolatis basi attenuatis integerrimis mucronulatis patentibus, caule piloso-lineato racemoso-composito, ramis æqualibus patentibus, involucri foliolis imbricatis lanceolatis. *Nees.—Ait. Hort. Kew. ed.* 1. *v.* 3. *p.* 205. *Pursh, Fl. Am. v.* 2. *p.* 558. *Elliott, Carol. v.* 2. *p.* 357. *Nees, Ast. p.* 100.

Hab. Canada. *Mrs. Sheppard.*

33. *A. falcatus* (*Lindl.*); foliis linearibus obtusis falcatis pilosiusculis, caule piloso anguste racemoso subcomposito, ramulis brevibus monocephalis paucifoliis, involucri laxi parum imbricati foliolis linearibus acutiusculis.

Hab. Arctic America. *Dr. Richardson.*—"Facies est omnino *A. hiemalis*, sed vera affinitas cum *A. fragili*; folia inferiora *Bupleuro falcato* similia." *Lindl.*

34. *A. Tradescanti*; foliis linearibus acuminatis margine ciliato-scabris inferioribus a medio argute remote serratis ramorum ramulorumque patentibus mucronatis, caule glabriusculo ramoso subcomposito patulo apice simpliciter racemoso, ramis virgatis, ramulis subsecundis, involucro imbricato. *Nees.—Linn. Hort. Cliff.—Mich. Am. v.* 2. *p.* 115. *Pursh, Fl. Am. v.* 2. *p.* 556. *Elliott, Carol. v.* 2. *p.* 358.

Hab. Canada. *Pursh. Dr. Holmes.*

35. *A. ericoides*; foliis linearibus angustis integerrimis glaberrimis, caule glabro racemoso-composito, ramis virgatis, ramulis subsecundis ab apice remotis, involucri brevis foliolis imbricatis apice subulato-patulis. *Nees.—Linn.—Mich. Am. v.* 2. *p.* 113. *Pursh, Fl. Am. v.* 2. *p.* 546. *Elliott, Carol. v.* 2. *p.* 348.

Hab. Canada. *Pursh.* Saskatchawan, and towards the Rocky Mountains. *Drummond.* Red River. *Douglas.*

36. *A. diffusus*; foliis caulinis lanceolatis, ramis oblongo-lanceolatis medio serratis supra scabriusculis margine scaberrimis, caule pubescenti racemoso-composito, ramis recurvato-patentibus, floribus subsecundis confertis, involucri imbricati foliolis acutis. *Nees.—Ait. Hort. Kew. ed.* 1. *v.* 3. *p.* 111. *Pursh, Fl. Am. v.* 2. *p.* 558. *Nees, Ast. p.* 110.—A. divergens β. diffusus. *Nutt.*

Hab. Canada. *Pursh. Mrs. Sheppard. Cleghorn.*

37. *A. miser*; foliis caulinis oblongo-cuneiformibus acuminatissimis medio serratis rameisque ovalibus subintegerrimis supra pubescenti-scabris, caule pubescenti-scabro racemoso-composito ramis erectis, floribus subsecundis confertis, involucri laxe imbricati foliolis acuminatis. *Nees.—Linn. Pursh, Fl. Am. v.* 2. *p.* 558. *Nees, Ast. p.* 111.

Hab. Canada, *Pursh*, if Pursh's plant be the same; but Nees excludes the synonym of Willd. and Pursh.

38. *A. pendulus*; foliis elliptico-lanceolatis cauleque pubescenti-scabris, caulinis medio adpresso-serratis, ramulorum ellipticis integerrimis, caule laxo diffuso racemoso-composito, ramis elongatis flaccidis, involucro imbricato. *Nees.—Ait. Hort. Kew. ed.* 1. *v.* 3. *p.* 205. *Pursh, Fl. Am. v.* 2. *p.* 558. *Nees, Ast. p.* 114.—A. divergens γ. pendulus. *Nutt.*

Hab. Canada. *Dr. Holmes.*—My Canadian specimen of this, so named by Professor Lindley, only differs from an authentic specimen of Nees' *A. miser* in its more copious flowers.

39. *A. Menziesii*; foliis oblongo-linearibus sessilibus integerrimis scabriusculis incanis, caule incano apice racemoso, involucri foliolis obtusis squarrosis. *Lindl. MSS.*

Hab. North-west coast of America. *A. Menzies, Esq.*—"Ab *A. concolori* vix differt nisi pilis rigidis nec mollibus, necnon involucri foliolis squarrosis nec appressis." *Lindl.*

40. *A. ramulosus;* foliis linearibus serrulato-scabris basi dilatatis sessilibus ramulorum rectis minoribus, caule piloso erecto angusto racemoso ramulis corymbulosis monocephalisve, involucri squarrosi foliolis acutissimis mucronatis. *Lindl. MSS.*—β. incano-pilosus. A. bienni, *Nutt.* (qui *Aster* est genuinus *multifloro* affinis) proxime accedit. *Lindl.*

Hab. Saskatchawan to Fort Franklin on the Mackenzie River and among the Rocky Mountains. *Dr. Richardson. Drummond.*—"Capitula duplo majora quam in *A. multifloro*." *Lindl.*

41. *A. multiflorus;* foliis linearibus integerrimis margine serrulato-scabris subtrinervibus ramulorum recurvis, caule pubescente ramoso-composito diffuso, floribus subsecundis, involucri foliolis laxe imbricatis apice recurvis subspathulatis mucronatis. *Nees.—Ait. Hort. Kew. ed.* 1. *v.* 3. *p.* 208. *Pursh, Fl. Am. v.* 2. *p.* 546.—β. ciliatus. *Nees.*—A. ciliatus. *Willd.*—*Pursh.*

Hab. α. Canada. *Pursh.*

42. *A. concinnus;* foliis lanceolatis amplectentibus remote argute serratis margine scabris ramulorum oblongis integerrimis, caule laxo subcorymboso, ramis virgatis dichotomo-paniculatis, involucro arcte imbricato. *Nees.—Willd. En. Hort. Berol. v.* 2. *p.* 884. *Pursh, Fl. Am. v.* 2. *p.* 554. *Nees, Ast. p.* 121.

Hab. Saskatchawan. *Dr. Richardson. Drummond.*

43. *A. strictus;* foliis lanceolatis attenuatis subamplectentibus medio subserratis ambitu supino scabris, caule racemoso-composito, ramis strictis contractis, involucro arcte imbricato. *Nees.—Poir. Enc. v.* 1. *p.* 498. *Nees, Ast. p.* 124.—β. angustifolius. *Lindl. MSS.*

Hab. Saskatchawan. *Drummond.*

44. *A. amplexicaulis;* foliis oblongis acutis basi cordato-amplectentibus lucidis margine scabris inferioribus subserratis, caule paniculato-corymboso, ramis dichotome corymbosis coarctatis, involucro arcte imbricato. *Nees.—Willd. Sp. Pl. v.* 3. *p.* 2046. *Nees, Ast. p.* 130. *Elliott, Carol. v.* 2. *p.* 360.

Hab. Edmonton House on the Saskatchawan. *Drummond.*

45. *A. rubricaulis;* foliis oblongo-lanceolatis amplectentibus lævibus margine scabris glaucis, radicalibus ovatis in petiolum contractis obtusis, caulinis inferioribus basi attenuatis subserratis, superioribus integerrimis, caule racemoso-composito subpaniculato stricto, involucri disco brevioris foliolis imbricatis lanceolatis, receptaculo pilosiusculo. *Nees.—Lam. Enc. v.* 1. *p.* 305. *Nees, Ast. p.* 131.

Hab. Canada. *Cleghorn.*

46. *A. cyaneus;* foliis oblongo-lanceolatis amplectentibus lævibus margine scabris glaucis superioribus integerrimis, radicalibus spathulatis obtusis crenato-serratis, caule racemoso-composito subpaniculato, involucri disco brevioris foliolis arcte imbricatis ex ovato-triangularibus, receptaculo alveolato-dentato epiloso. *Nees.—Hoffm. Syn. Ast. p.* 23. *Nutt. Gen Am. v.* 2. *p.* 156. *Nees, Ast. p.* 132. *Elliott, Carol. v.* 2. *p.* 358.

Hab. Rocky Mountains. *Drummond.*

54. EURYBIA.* *Cass.*

Radius fœmineus fertilis. *Involucri foliola* arcte imbricata disco herbaceo apicis angusto. *Flosculi* disci tubo limboque discretis. *Achenia* elongata prismatica glabra vel pubescentia. *Pappus* simplex rigidulus persistens scaber. *Receptaculum* alveolatum.—*Characteres plurimi* Asteris *generis, sed differt; involucro subcylindrico arcte imbricato, foliolis apice non foliaceis vel saltem læviori costæ expansione præditis, acheniisque linearibus longioribus subprismaticis vel angulatis, nec compressis; habitu denique et pubescentia. Nees.*

1. *E. macrophylla;* foliis cordatis ovatisve, radicalibus subtrinervatis, caulinis in petiolum alatum contractis serratis scabris subtus hirtis, caule hirto ramisve glabro patulo corymboso, ramulis rigidis, involucri arcte imbricati foliolis oblongo-lanceolatis obtusis. *Nees.*—*Cass. in Dict. des Sc. Nat. v.* 37. *p.* 487. *Nees, Ast. p.* 140.—Aster macrophyllus. *Linn.*—*Pursh, Fl. Am. v.* 2. *p.* 552.—A. divaricatus. *Linn.*—A. infirmus. *Mich. Am. v.* 2. *p.* 109? (*Nees.*)

Hab. Canada. *Pursh.* From Lake Huron, *Dr. Todd,* to Norway House on the Saskatchawan. *Drummond.*

2. *E. corymbosa;* foliis ovatis inferioribus cordatis serratis petiolatis, caule dichotomo-corymboso, involucri foliolis imbricatis obtusis exterioribus ovatis. *Nees.*—*Cass. l. c. Nees, Ast. p.* 143.—Aster corymbosus. *Ait. Hort. Kew. ed.* 1. *v.* 3. *p.* 207. *Pursh, Fl. Am. v.* 2. *p.* 552. *Elliott, Carol, v.* 2. *p.* 365.

Hab. Canada. *Pursh.*—Nees has three other American species not in any American Flora, with which both Dr. Boott and myself are unacquainted.

55. SERIOCARPUS. *Nees.*

Radius fœmineus fertilis. *Involucri foliola* basi lata subcartilaginea arcte imbricata, apice abrupte herbacea et plerumque patula. *Flosculi* disci pauci conico-cylindracei, tubo limboque confluentibus. *Achenia* brevia, obverse pyramidalia dense sericea. *Pappus* simplex rigidulus persistens. *Receptaculum* angustum, alveolatum, irregulare.—*Differt hocce genus ab* Eurybio *appendice foliolorum involucri distincta; ab* Astere *acheniis brevibus dense sericeis et forma flosculorum disci, ab utroque genere cunctisque reliquis* Astereis *habitu, præsertim ab inflorescentia pendente. Nees.*

1. *S. solidagineus;* foliis lineari-spathulatis obtusis integerrimis margine scabris, corymbo paucifloro, involucro squarroso. *Nees, Ast. p.* 149.—Aster solidaginoides. *Mich. Am. v.* 2. *p.* 108. *Pursh, Fl. Am. v.* 2. *p.* 542. *Elliott, Carol. v.* 2. *p.* 340.—Conyza linifolia. *Linn.*

Hab. Near Montreal. *Mr. Cleghorn.*

2. *S. rigidus* (*Lindl.*); foliis obovatis (potius oblongo-spathulatis) subtrinerviis integerrimis cauleque scaberrimis, corymbo terminali simplici vel composito contracto, involucri turbinati foliolis adpressis basi nudis, radio pappo breviore. *Lindl. MSS.*

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* I follow the learned Nees von Esenbeck in the adoption of this and other Genera of his *Asterineæ*; but I must confess that I think the character is much too slight, and the difference in habit by no means sufficient to warrant such a separation.

Hab. Columbia River. *Dr. Scouler.* Abundant on undulating, dry, gravelly soils near Fort Vancouver, and low hills of the interior. *Douglas.*—The leaves are remarkably acute, almost mucronate, and they and the stems are quite rough with minute elevated dots. "*S. conyzoidi* proximus." *Lindl.* To me this species, though very distinct, appears to approach nearest to *S. tortifolius*.

56. TRIPOLIUM. *Dod. Nees.*

Radius fœmineus fertilis. *Involucri foliola* interiora ampliora membranacea, colorata, appressa, exteriora in pedunculi foliola decrescentia. *Achenia* cuneiformia, compressa, glabriuscula. *Pappus* simplex, capillaris, densus, noduloso-scaber. *Receptaculum* alveolatum. —Herbæ *annuæ vel perennes, glabræ, in solo salsuginoso crescentes.* Folia *angusta, succulenta, margine sæpe scabra, triplinervia vel subavenia.* Flores *corymbosi albi vel cærulei. Involucra sæpe colorata.—Species Europæ, Asiæ Caucasicæ, Americæ septentrionali indigenæ. Nees.*

1. *T. pauciflorum;* foliis linearibus subcarnosis glabris caulinis subulatis amplexicaulibus, caule paucifloro (3–6-floro) ramis subunifloris viscido-pubescentibus, involucri hemisphærici foliolis subæqualibus acutis. *Nees, Ast. p.* 157.—Aster pauciflorus. *Nutt. Gen. Am. v.* 2. *p.* 154.

Hab. Marshes of the Saskatchawan. *Drummond.*

2. *T. angustum* (*Lindl.*); foliis linearibus serrulato-scabris glabris, caule angusto strictissimo, ramis rectis racemosis, involucri hemisphærici imbricati foliolis linearibus acutis, radio inconspicuo.—*α.* ramis oligocephalis.—*β.* ramis polycephalis.—*Lindl. MSS.*

Hab. *α.* Banks of the Saskatchawan. *Drummond.*—*β.* Slave Lake. *Dr. Richardson.*—"This species differs essentially from *T. subulatum, Nees* (*Aster subulatus, Mich.*) in its stem not being flexuose, in its serrulated leaves, in the form of the leaflets of the involucre, and in the flowers being twice as large." *Lindl.*

57. GALATELLA. *Cass.*

Radius fœmineus sterilis. *Involucri* angusti *foliola* imbricata angusta, nervo herbaceo sub apice non expanso. *Achenia* conoidea, dense hirsuta vel sericea. *Pappus* rigidulus, densus, scaber. *Receptaculum* lacero-alveolatum.—Folia *conformia angusta;* radicalia *minora, sessilia, subverticalia, nervosa vel enervia solaque costa media, venis autem nullis divisa, rigidula scabra plerisque punctata, punctis in superficie superiori præsertim obviis insculptis glandulaque granuliformi nitidula viridi fundo foveolæ immersa præditis, quæ glandulæ, in aliis magis in aliis minus conspicuæ, nonnullis omnino deesse videntur, caulis inferne simplex, apice distincte corymbosus, ramis dichotomis, rarius subtrichotomis. Radii ligulæ distantes, neutræ. Nees.*

1. *G. nemoralis;* foliis lanceolato-linearibus integerrimis enervibus impunctatis scabris, caule apice corymboso, radio elongato. *Nees, Ast. p.* 173.—Aster nemoralis. *Ait. Hort. Kew. ed.* 1. *v.* 3. *p.* 198.—A. ledifolius. *Pursh, Fl. Am. v.* 2. *p.* 544.—*β.* uniflorus.—Aster uniflorus. *Mich. Am. v.* 2. *p.* 110.

Hab. Canada. *Pursh.* Newfoundland. *Mr. Cormack. Dr. Morrison.*

2. *G. graminifolia;* foliis angusto-linearibus subtrinervibus margine costaque pilosiusculis impunctatis, ramis terminalibus gracilibus subaphyllis unifloris, involucri foliolis laxis discum

æquantibus.—Aster graminifolius. *Herb. Banks. MSS.—Pursh, Fl. Am. v. 2. p.* 545. *Rich. in Frank. 1st Journ. ed.* 2. *App. p.* 32. (fide *Herb. nostr.*)

Hab. Hudson's Bay. *Herb. Banks. Dr. Richardson.* Slave Lake. *Dr. Richardson.*—This is indeed very closely allied to *G. nemoralis* and *G. linifolia;* but there are, besides the costa, two lateral ramified nerves in the leaves, whose margins and costa too are hairy, and the pappus is almost white.

58. TOWNSENDIA. *Nov. Gen.*

Capitulum heterogamum. *Flosculi radii* ligulati fœminei; disci hermaphroditi, regulares. *Involucri foliola* pluriserialia imbricata. *Pappus* uniserialis; *radii* brevis, paleaceo-subulatus, inæqualis; *disci* pilosus, pilis elongatis scabriusculis.—Herba *Americæ borealis humilis acaulis.* Radix *fusiformis, lignosa, longe descendens; superne sæpe divisa, reliquiis foliorum vetustorum obtecta.* Folia *omnino radicalia, numerosa, erecto-patentia, linearia, subspathulata, integerrima, utrinque adpresso-sericea, basi dilatata, et utrinque ciliata.* Flos *solitarius, foliis immersus et obtectus, ratione plantæ magnus.* Involucrum *ovatum, foliolis sericeis, linearisubulatis, erectis, imbricatis.* Flosculi radii *ligulati, erecti, pallide rosei, marginibus involuti, apice dentibus tribus conniventibus.* Stigma *bifidum, purpureum, glabrum.* Ovarium *oblongum, compresso-triquetrum, pubescens.* Pappus *brevis sed valde inæqualis, uniserialis, e pilis seu paleis subulatis, basi membranaceis.* Flosculi disci *tubulosi, lutei.* Pappus *pilosus, pilis scabriusculis longitudine corollæ.* Ovarium *sericeum.* Receptaculum *alveolato-punctatum, nudum.*

1. *T. sericea.* (Tab. CXIX). Aster? exscapus. *Rich. in Frankl. 1st. Journ. ed.* 2. *App. p.* 32.

Hab. Carlton House upon the Saskatchawan. *Dr. Richardson.* Rare, upon the dry banks of the Saskatchawan and among the Rocky Mountains. *Drummond.*—This highly interesting little plant, no less on account of its habit than its pappus, deserves to be separated from *Aster,* of which, indeed, it was by Dr. Richardson, considered a doubtful species. "The bud is formed in the autumn," and what Dr. Richardson further observed in the living plant, I find to be characteristic of all the specimens in this Collection, that "the florets of the ray are mostly involute, rarely expanded, and always narrow, nearly of the same colour with the pappus and inconspicuous; the flowers, indeed, never fully expanding." I have named the Genus in compliment to *David Townsend, Esq.* of West Chester, Pennsylvania, who having imbibed the most ardent love of Botany from his friend and instructor Dr. Darlington of the same city, has devoted his leisure hours to the science with eminent success. The plant now under consideration is peculiarly worthy of bearing his name, because he has studied and ably discriminated the numerous Pennsylvanian species of the allied Genus *Aster.*

Tab. CXIX.—*Fig.* 1, Flowers; *fig.* 2, Floret of the ray; *fig.* 3, Portion of the pappus from the ray; *fig.* 4, Floret of the disk; *fig.* 5, Portion of a hair from the pappus of the disk; *fig.* 6, Stigma from the disk; *fig.* 7, 7, Scales of the involucre; *fig.* 8:—*all more or less magnified.*

59. ERIGERON. *L.*

Flores ♀ pluriseriales in ambitu ligulati numerosi angusti; reliqui ☿. *Involucri foliola* imbricata angusta. *Pappus* conformis, uniserialis. *Cor.* ☿ regularis. *Achenium* erostre. —Herbæ *Europæ, Asiaticæ vel Americanæ, erectæ, ramosæ vel simplices, magis minusve hirsutæ; foliis alternis, inferioribus oblongo-obovatis, dentatis; capitulis albis vel purpureis solitariis vel paniculatis. Nees.*

1. *E. compositus;* subacaulis, foliis radicalibus longe petiolatis tripartitis hirsutis laciniis cuneiformibus trifidis, scapo unifloro paucifolio foliis linearibus integris.—*Pursh, Fl. Am. v.* 2. *p.* 535. *Hook. in Linn. Trans. v.* 14. *p.* 374. *t.* 13.—Cineraria Lewisii. *Rich. in Frankl.* 1*st Journ. ed.* 2. *App. p.* 32.—β. *grandiflorus*; floribus fere duplo majoribus, radiis magis conspicuis.—γ. radii flosculis carneis.

Hab. Banks of the Kooskoosky. *M. Lewis.*—α. and β. Barren country between lat. 64° and the Arctic Sea, and on the highest of the Rocky Mountains, in lat. 54°. *Drummond.* Islands of the Columbia, between the Narrows and the great Falls. *Douglas.*—γ. Summits of the Rocky Mountains. *Drummond.*

2. *E. trifidus;* subacaulis, foliis hirsutis radicalibus longe petiolatis trifidis laciniis integris infimis solummodo raro iterum divisis, scapo unifloro paucifolio foliis linearibus integris. (Tab. CXX.)

Hab. Barren places among the Rocky Mountains. *Drummond.*—This has the flowers equal in size with those of *E. compositus*, β., and the habit is very similar; but the leaves are almost the whole of them simply trifid; a few of those at the base of the stem, or divisions of the stem, being compound.

Tab. CXX.—*Fig.* 1, Floret of the ray; *fig.* 2, Floret of the disk; *fig.* 3, Leaf:—*magnified.*

3. *E. lanatus;* subacaulis lanatus, foliis radicalibus spathulatis infimis rarissime trifidis, scapo subaphyllo superne involucroque densissime lanatis, radiis elongatis patentibus, acheniis glabris. (Tab. CXXI.)

Hab. Summits of the Rocky Mountains between lat. 52° and 56°. *Drummond.*—This is an extremely beautiful species, most allied, indeed, to *E. uniflorus*, but differing in the dense woolly covering, large flowers, long descending root, and in the scape, rather than a stem, which bears the flower. Corollas of the ray white, or rarely purple.

Tab. CXXI.—*Fig.* 1, Floret of the ray; *fig.* 2, Floret of the disk; *fig.* 3, Radical leaf; *fig.* 4. outermost do.:—*magnified.*

4. *E. radicatus;* subacaulis, foliis radicalibus lineari-spathulatis hirsutulis subcarnosis, scapo unifloro paucifolio, involucro lanato, radiis breviusculis patentibus. (Tab. CXXII.)

Hab. Mountains near Jasper's Lake, Rocky Mountains, rare. *Drummond.*

Tab. CXXII.—*Fig.* 1, Floret of the ray; *fig.* 2, Floret of the disk; *fig.* 3, Portion of a hair from the pappus; *fig.* 4, 4, Leaves.

5. *E. uniflorus;* caule brevi, foliis radicalibus glabriusculis spathulatis, caulinis paucis linearibus superne involucroque dense purpureo-lanatis, radiis erectiusculis involucro paullo longioribus. *Linn. Sp. Pl. p.* 1211. *Fl. Lapp. p.* 250. *t.* 9. *f.* 3. (vix *Engl. Bot. t.* 2416.) *Rich. in Frankl.* 1*st Journ. ed.* 2. *App. p.* 30.—E. alpinus. *Pursh, Fl. Am. v.* 2. *p.* 532.

Hab. Labrador. *Kohlmeister.* Arctic Sea-shore (*Dr. Richardson*) and adjacent islands, *Capt. Parry, Sabine,* &c. Summits of the Rocky Mountains, *Drummond,* who found one large specimen in the woody region with seven stems from the same root.—This is well distinguished from the preceding by its more glabrous foliage, true stem, the leaves gradually becoming smaller upon it, smaller flowers, and much shorter ray. The involucre and its woolly clothing are, alike, generally purple. It is quite distinct from the *E. uniflorus* of Engl. Bot. which I have reason to believe is only a single-flowered state of *E. alpinus*; nor have I ever seen the true *uniflorus* in Britain.

6. *E. grandiflorus;* ubique lanato-hirsutus, caule subelongato unifloro, foliis radicalibus oblongo-spathulatis caulinis lanceolatis, involucro (apice purpureo nudiusculo) densissime albo-lanato, radiis patentibus involucro duplo longioribus. (Tab. CXXIII.)

Radix descendens perennis, caules 1–5 gerens. *Caulis* foliosus, palmaris ad spithamæum, pilosus. *Folia* pilosa, inferiora spathulata: reliqua lanceolata. *Flos* terminalis, solitarius, ratione plantæ magnus. *Involucrum* densissime albo-lanatum, foliolis apice purpureis scariosis nudis. *Radii Flosculi* elongati, patentes, albi vel purpurei.

Hab. Summits of the Rocky Mountains. *Drummond.*

Tab. CXXIII.—*Fig.* 1, Floret of the ray; *fig.* 2, Floret of the disk:—*magnified.*

7. *E. alpinus;* hirsutiusculus, caule subelongato uni-multifloro, foliis inferioribus spathulatis superioribus lanceolatis, involucro piloso, radiis inconspicuis erectis pappo copioso paululum longioribus.—*Linn. Sp. Pl. p.* 1211. *Engl. Bot. t.* 464.—β. foliis angustioribus, ramis elongatis.—γ. *elata*; subpedalis.

Hab. α. and β. and γ. Rocky Mountains in elevated situations. *Drummond.*—This (the *var.* α.) exactly corresponds with our European *E. alpinus;* but appears to be confined to the mountains of the interior; whereas, in northern Europe it is frequently a maritime species.

8. *E. glabratus;* glabriusculus, caule elato simplici, foliis radicalibus spathulatis caulinis lineari-lanceolatis, racemo terminali multifloro, pedunculis elongatis vix corymbosis simplicibus vel ramosis, involucri parvi foliolis angustissimis, radiis inconspicuis pappo copioso immersis.—E. glabratus. *Hopp. in Un. It.* (*Herb. nostr.*)—E. alpinus, β. ramosus. *Wahl. Lapp. p.* 207.—β. *minor*; pedunculis brevioribus.

Hab. Hudson's Bay to the Rocky Mountains, and from the Saskatchawan to Fort Franklin on the Mackenzie River. *Dr. Richardson. Drummond.*—β. Rocky Mountains. *Drummond.*—I cannot but look upon this as quite distinct from *E. alpinus*, and, variable as it is in size, from 4–6 inches to 2 feet, it is very constant in its inflorescence, a raceme with very long peduncles, and in the very copious pappus, of a slightly tawny hue, which quite conceals the flowers. Wahlenberg notices its affinity with *E. acris*, which is certainly very considerable, insomuch that it may possibly prove to be a variety of it. It is, however, much more glabrous, and has fewer and larger leaves. This species retains all its characters in cultivation.

9. *E. lonchophyllus;* caule elato hispido simplici, foliis longissimis linearibus glabris nervosis ciliatis inferioribus lineari-spathulatis, racemo terminali folioso multifloro, pedunculis elongatis foliolosis, radiis numerosis angustis (albis?) pappo copioso vix longioribus.

Hab. Saskatchawan. *Drummond.*—A very remarkable species, of which, unfortunately, there is only a solitary specimen in the Collection. This is 2 feet high; the stem angled, very hispid, with patent rigid white hairs; cauline leaves, several of them 6 inches long, 2–4 lines broad. Flowers similar to those of *E. glabellus.*

10. *E. strigosus;* strigoso-pilosus elatus, foliis radicalibus spathulatis caulinis lanceolatis basi attenuatis, floribus corymboso-paniculatis, radiis (albis) patentibus numerosis involucro parvo piloso vix duplo longioribus. *Muhl. in Willd. Sp. Pl. v.* 3. *p.* 1956. *Pursh, Fl. Am. v.* 2. *p.* 534. *Elliott, Carol. v.* 2. *p.* 394.—β. *hispidissimus.*

Hab. Throughout Canada to the Saskatchawan, and to the Rocky Mountains: thence to the shores of the

Pacific. *Dr Richardson. Drummond. Douglas.*—β. Plentiful in the vallies of the Blue Mountains and of the Spokan River. *Douglas.*—The present, though, like the other species, it may not be easy to define its character in words, is a very well marked one to the eye. It is tall and slender, with narrow leaves. The pretty white flowers are about the size of a daisy.

11. *E. purpureus;* pubescens, foliis oblongis tenui-membranaceis dentatis vel integris caulinis amplexicaulibus radicalibus in petiolum attenuatis, floribus paniculatis subcorymbosis, radiis purpureis numerosissimis patentibus involucro glabriusculo subtriplo longioribus. —*Ait. Hort. Kew. ed.* 1. *v.* 3. *p.* 186. *Pursh, Fl. Am. v.* 2. *p.* 533. *Rich. in Frankl.* 1*st Journ. ed.* 2. *App. p.* 30.

Hab. From Lake Huron (*Dr. Todd*) to the Arctic Circle, and from Hudson's Bay to the Rocky Mountains and the shores of the Pacific. *Dr. Richardson. Drummond. Douglas.*—This is peculiar for its broad leaves, which are amplexicaul at the base, of a rather deep green colour, and singularly delicate texture, and for its rather large flowers, with copious red-purple rays. Our specimen from the Saskatchawan is truly gigantic, 3 feet high, with radical leaves a span long and 2 inches broad.

12. *E. Philadelphicus;* pubescens, foliis cuneato-oblongis rariter inciso-dentatis caulinis semiamplexicaulibus, caule debili simplici superne corymboso, pedunculis elongatis unifloris, radiis capillaceis involucro hemisphærico duplo longioribus. *Ph.—Linn. Sp. Pl. p.* 1211. *Pursh, Fl. Am. v.* 2. *p.* 533. *Rich. in Frankl.* 1*st Journ. ed.* 2. *App. p.* 30. *Reich. Ic. Ex. t.* 134.

Hab. Canada. *Kalm.* (*Linn.*) Woody country between lat. 54° and 64°. *Richardson.*—I have never received any authentic specimen of this from the American Botanists; but I introduce it on the authority of Dr. Richardson and Linnæus. The excellent Dr. Darlington says, that what he has taken for *E. Philadelphicus* agrees, on a careful comparison, also with *E. purpureus.* I am inclined to suspect that the two are one species, and, if so, the present name, in right of priority, should be retained. Reichenbach's figure looks like a small-flowered state of *E. purpureus.*

13. *E. pulchellus;* pubescenti-asper, foliis radicalibus spathulatis integris vel serratis caulinis remotis linearibus integerrimis, panicula laxa pauci (3–5) flora, radiis numerosis (albidis vel pallide purpureis) patentibus involucro plusquam duplo longioribus.—*Mich. Am. v.* 2. *p.* 224. *Rich. in Frankl.* 1*st Journ. ed.* 2. *App. p.* 30.—E. bellidifolius. *Willd. Sp. Pl. v.* 3. *p.* 1958. *Sims, Bot. Mag. t.* 2402.—E. Serpentaria. *Banks, MSS.*—β. foliis profunde dentatis.

Hab. Woody country, from Canada to lat. 64°.—β. North West Coast of America. *Menzies.*—In all our specimens the ray in the dry state appears to be white.

14. *E. glabellus;* glaber vel pubescens, foliis lato-lanceolatis integerrimis nervosis ciliatis, radicalibus subspathulatis, floribus (inter majores) paucis (3–5) subcorymbosis, radiis (purpurascentibus nunc albis) numerosis patentibus involucro pubescente fere triplo longioribus.—*Nutt. Gen. Am. v.* 2. *p.* 148. *Rich. in Frankl.* 1*st Journ. ed.* 2. *App. p.* 30. *Hook. Bot. Mag. t.* 2923.—β. *pubescens;* totus valde pubescens.—γ. *mucronatus;* foliis acutissimis mucronatis.

Hab. From the Saskatchawan, *Drummond,* throughout the woody country, to lat. 64°. *Dr. Richardson.* —β. Prairies of the Rocky Mountains. *Drummond.*—γ. Plentiful on low plains of the Columbia, near the coast. *Douglas. Dr. Scouler.*

15. *E.? hyssopifolius;* caule ramis sterilibus paniculato paucis in pedunculos nudos unifloros protractis, foliis linearibus integris glabellis ciliatis, radiis involucro cylindraceo multo longioribus. *Mich. Am. v.* 2. *p.* 123. *Pursh, Fl. Am. v.* 2. *p.* 534?

Hab. Hudson's Bay and near Lake Mistassins. *Michaux.*—With this I am unacquainted. In some of its characters, it comes near my *E. lonchophyllus*, but the involucre is said to be cylindrical, and the rays much longer than it. Pursh refers it to *Dill. Elth. t.* 306, *f.* 394, (*E. Carolinianus*, Willd.) evidently no true *Erigeron*, the *Phalacroloma* of Cassini.

16. *E. Canadensis;* caule hispido, foliis lanceolato-linearibus ciliatis acutis, floribus (parvis) in paniculam terminalem oblongam foliosam dispositis, ramis quasi racemoso-multifloris, pedicellis foliolosis, radiis minutis (albis) pappo copioso vix longioribus.—*Linn.*—*Mich. Am. v.* 2. *p.* 123. *Pursh, Fl. Am. v.* 2. *p.* 534.

Hab. Thoughout Canada. From Lake Huron to the Saskatchawan. Columbia River. *Dr. Scouler.*

17. *E.? florifer;* caule breviusculo ramoso piloso, foliis omnibus lineari-spathulatis pilosiusculis integerrimis glaucis, ramis pedunculiformibus unifloris (floribus inter maximos), involucri foliolis exterioribus pubescenti-hirsutis interioribus membranaceis fimbriato-ciliatis, radiis latiusculis (albis?) patentibus involucro duplo longioribus, pappi pilis albissimis incrassatis hirsutulis.

Hab. Dry rocks and sandy grounds near Priest's Rapids of the Columbia, and Lewis and Clarke's River; N.W. coast of America. *Douglas.*—This is evidently no *Erigeron*, yet it has as little affinity with any *Aster*. The hairs of the pappus are unusually thick and white.

(*Pappus duplex: extus perbrevis subpaleaceus.*)

18. *E. annuus;* foliis radicalibus subrotundo-ovatis profunde dentatis petiolatis, caulinis lanceolatis acutis medio subserratis, corymbo terminali.—Aster annuus. *Linn.*—Erigeron heterophyllus. *Willd. Sp. Pl. v.* 3. *p.* 1956. *Pursh, Fl. Am. v.* 2. *p.* 534.—Diplopappus dubius. *Cass. Bull.*—Stenactis dubia. *Cass. in Dict. des Sc. Nat. v.* 37. *p.* 485.—S. annuus. *Nees, Ast. p.* 273.

Hab. Canada. *Cleghorn.*—Except in the pappus, this is so entirely an *Erigeron* that I am very unwilling to separate it from that Genus. The outer pappus consists of several very minute acuminated paleaceous scales. It has, like the *E. Canadensis*, been introduced from America into Europe, and thus found a place in our European Floras.

60. DIPLOPAPPUS.* *Cass.*

Radius uniserialis ♀. Discus ☿. Pappus biserialis. *Cor.* disci regularis. *Achenium* erostre.—Herbæ *vel* fruticuli *Americani, Asiatici vel Africani; foliis alternis, integris; capitulis terminalibus solitariis, colore varie tinctis. Less.*

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* I follow my own inclination, no less than the valued suggestion of Professor Lindley, in uniting *Diplostephium*, Kunth, and *Doellingeria*, Nees, with *Diplopappus.*

* *Pappus conformis, utrinque setaceus.*

1. *D. albus;* foliis lineari-lanceolatis subintegerrimis scabris basi longe angustatis inferioribus petiolatis, caule simplici corymboso scabro ramulis subunifloris subaphyllis, involucri foliolis oblongo-linearibus glabriusculis obtusis.—*α.* radiis albis. D. albus. *Lindl. MSS.*—Chrysopsis alba. *Nutt. Gen. Am. v. 2. p.* 152.—Doellingeria? ptarmicoides. *Nees, Ast. p.* 183.—*β.* radiis luteis. D. lutescens. *Lindl. MSS.* (*in Herb. nostr.*)

Hab. On the banks of the Saskatchawan; but rare. *Dr. Richardson. Drummond.*—Lake Superior. *Dr. Pitcher, in Herb. Torrey.*—*α.* and *β.* Banks of the Red River. *Douglas.*—The outer pappus consists of very few and indistinct hairs; the inner has the hairs by no means clavate at the extremity, and therefore it cannot be a *Doellingeria* of Nees von Esenbeck.—Dr. Pitcher finds a single-flowered var. at Lake Superior.

2. *D. canescens;* pubescenti-canus, foliis lineari-lanceolatis integerrimis basi valde angustatis inferioribus longe petiolatis, caule simplici corymboso, ramulis unifloris elongatis foliolosis, involucri foliolis angustis acutissimis hirsuto-scabris.

Hab. Between Carlton House and Edmonton House on the Saskatchawan. *Drummond.*—Perhaps a variety of the following.

3. *D. grandiflorus;* canescens, caule subdecumbente infra basin ramoso, foliis linearioblongis inferioribus spathulatis, ramis plerumque simplicibus unifloris nudiusculis involucri foliolis angustis acutissimis hirsuto-scabris.

Hab. Plains of the Saskatchawan and Prairies of the Rocky Mountains. *Drummond.*—This is nearly allied to the preceding, but the flowers are twice as large, the plant is of more humble and less erect growth, and the ramification is different, less corymbose.

4. *D. linariifolius;* suffruticosus, ramis subcorymbosis unifloris, foliis linearibus patentibus scaberrimis serrulato-ciliatis, involucri foliolis sublaxe imbricatis lineari-lanceolatis obtusis.—Diplostephium linariifolium. *Nees, Ast. p.* 199.—Aster linariifolius. *Linn.*—*Mich. Am. v. 2. p.* 110. *Pursh, Fl. Am. v. 2. p.* 545.—Aster rigidus. *Linn.*—*Mich. Am. v. 2. p.* 110. *Pursh, Fl. Am. v. 2. p.* 544. *Elliott, Carol. v. 2. p.* 365.

Hab. Canada. *Mrs. Sheppard.* Newfoundland. *Mr. Cormack.*

5. *D. incanus;* totus incanus, foliis linearibus mollibus distantibus acutis mucronulatis, ramis longis corymbosis monocephalis apice nudis, involucri ovati glandulosi foliolis linearibus multiseriatis exterioribus squarrosis. *Lindl. MSS.*

Hab. California and N.W. Coast of America. *Douglas*, in *Herb. Lindley.*—"*D. rigido* (*linariifolio*) proximus. *Caulis* $2\frac{1}{2}$ pedalis ab ima basi strictim racemosus, pube brevi mollis, foliis valde denudatus. *Radii* amæne violacei."—*Lindl.*

6. *D. filifolius;* incanus, foliis omnibus lineari-filiformibus, ramis longis subcorymbosis unifloris, involucri foliolis imbricatis angustis acutis pubescenti-scabris, radiis flavescentibus, pappo albo.

Hab. Common on the Great Falls of the Columbia and barren grounds of the interior. *Douglas.*—Ten inches to a foot high. *Leaves* very slender, an inch and a half long, almost filiform. *Pappus* white, exterior very short; *ovary* hairy.

7. *D. lĭnearĭs;* humilis, caulibus subcæspitosis erectis simplicibus apice nudiusculis unifloris,

foliis omnibus lineari-filiformibus subspathulatis, flore terminali, involucri foliolis angustis pubescenti-scabris, pappo fulvo.

Hab. Common on dry rocks and sandy grounds near the "Priest's Rapid" of the Columbia, and also on Lewis and Clarke's River. *Douglas.*—Four to six inches high, several stems arising from the same root, and universally bearing one flower. These flowers are old, and the corollas have fallen or are withered, the fruit with the tawny pappus alone remaining.

8. *D. pinnatifidus;* caulibus numerosis ex eadem radice erectis superne valde ramosis corymbosis multifloris, foliis subbipinnatifidis pilosis, segmentis angustis linearibus pilo terminali mucronatis, involucri foliolis lineari-subulatis mucronatis pubescentibus, radiis luteis. —An Amellus spinulosus? *Pursh, Fl. Am. v.* 2. *p.* 564.

Radix lignosa, fusiformis, perennis. *Caules* plurimi, palmares ad pedalem, erecti, superne corymboso-ramosi, ramis omnibus floriferis. *Folia* pinnatifida pilosa, laciniis linearibus, dentatis vel iterum pinnatifidis, pilo longiusculo terminali mucronatis. *Flores* copiosi flavi. *Ovarium* dense villosum. *Pappi* laciniæ valde inæquales, exteriores sensim minores. *Receptaculum* alveolatum subpaleaceo-fimbriatum.

Hab. Rocky Mountains near Jasper's Lake, rare. *Drummond.*

** *Pappus biformis: ext. paleaceus; int. setaceus.* (*Flores flavi.*) Chrysopsis. *Nutt. Ell.*

9. *D. villosus;* caulibus erectis patenti-villosis, superne corymbosis, foliis oblongis seu oblongo-spathulatis sessilibus acutis appresso-villosis ciliatis, ramulis floriferis pubescentibus, involucri foliolis lineari-subulatis acutis subpubescentibus ext. non raro foliaceis.—Chrysopsis villosa. *Nutt. Gen. Am. v.* 2. *p.* 151. (*et in Herb. nostr.*)—Amellus villosus. *Pursh, Fl. Am. v.* 2. *p.* 564.

Hab. Banks of the Saskatchawan. *Drummond.* Common on the Red Deer and Eagle Hills of the Saskatchawan River and banks of the Assinaboyne; also on the low hills west of the Rocky Mountains, to the Pacific Ocean, on dry, rocky, or sandy soils. *Douglas.*—Pappus nearly white. Flowers yellow.

10. *D. hispidus;* totus pilis patentibus hispidus, foliis oblongo-spathulatis basi angustatis subpetiolatis, ramis subcorymbosis, involucri foliolis angustatis acutis glabriusculis.

Hab. Carlton-House Fort. *Dr. Richardson.*—This appears to be rare, if we may judge from the very few specimens collected. Though most allied to the preceding, it is nevertheless quite distinct. It is smaller and slenderer, the leaves more remote and more attenuated below, and they and the whole plant, even the floral branches, are clothed with long patent rigid leaves. Flowers yellow. Pappus tawny.

11. *D. scaber;* hispido-scaber, foliis grosse dentatis inferioribus ovalibus longe petiolatis, caulinis lato-oblongis, ramis terminalibus subcorymbosis nudiusculis unifloris involucrisque pubescenti-glandulosis, pappo intense fulvo.—Chrysopsis scabra. *Nutt. Gen. Am. v.* 2. *p.* 151. *Elliott, Carol. v.* 2. *p.* 339.—Inula scabra. *Pursh, Fl. Am. v.* 2. *p.* 531.

Hab. N.W. Coast of America. *A. Menzies, Esq.*—This quite accords in every essential particular with authentic specimens of *Chrysopsis scabra* I have received from Mr. Elliott, and with others gathered at Rio Brazos, in Texas, so that the species must have a very extensive range.

*** *Pappus biformis: ext. brevis: int. setaceus, pilis apice incrassatis.* Doellingeria. *Nees.*

12. *D. umbellatus;* foliis oblongo-lanceolatis, caule angulato scabro apice corymboso-com-

posito, involucro imbricato.—Doellingeria umbellata. *Nees, Ast. p.* 178.—Aster umbellatus. *Ait. Hort. Kew. ed.* 1. *v.* 3. *p.* 199.—Chrysopsis amygdalina. *Nutt. Gen. Am. v.* 2. *p.* 153.

HAB. Canada. *Dr. Holmes. Mr. Cleghorn.*

13. *D. amygdalinus;* foliis oblongis, caule angustato glabro apice corymboso-composito, involucro laxo.—Doellingeria amygdalina. *Nees, Ast. p.* 179.—Diplostephium amygdal. *Cass.*—Aster amygdalinus. *Lam.—Mich. Am. v.* 2. *p.* 109. *Pursh, Fl. Am. v.* 2. *p.* 549.—Chrysopsis humilis. *Nutt.* (*excl. syn.* Ast. cornifolii, *Muhl. et* Ast. infirmi, *Mich., Nees.*)—Aster humilis. *Willd.—Pursh, Fl. Am. v.* 2. *p.* 548. *Elliott, Carol. v.* 2. *p.* 367.

HAB. Canada. *Mrs. Percival.* Newfoundland. *Miss Brenton. Mr. Cormack.*—I am by no means satisfied of the permanency of the distinguishing characters of this and the preceding species.

61. BOLTONIA. *L'Hérit.*

Radius ♀, uniserialis. *Discus* ☿. *Pappus* brevis, radii pluri- disci bi-setosus. *Cor.* disci regularis. *Achenium* erostre.—Herbæ *Boreali-Americanæ, erectæ; foliis alternis, integris; ramis divaricatis florigeris monocephalis apiceque aphyllis; capitulis parviusculis, radio cæruleo; rachide conica; involucris imbricatis.* Less.

1. *B. glastifolia;* foliis inferioribus serratis, floribus breviter pedunculatis, seminibus obcordatis conspicue alatis pubescentibus aristis pappi duabus ipsorum longitudine. *Pursh,—L'Hérit. Sert. Angl. p.* 27. *Mich. Am. v.* 2. *p.* 132. *Pursh, Fl. Am. v.* 2. *p.* 561. *Sims, Bot. Mag. t.* 2381.

HAB. Canada. *Goldie.*—My plant does not exactly accord with either of the two species described by Pursh. The seed or achenium is oval and glabrous, as in *B. asteroides;* but it has the unequal pappus and the two paleæ longer than the rest, and the broad wings of *B. glastifolia.* Elliott has a third species, whose achenium is scarcely winged, and the pappus is as in our plant. May they not all be varieties of the same species? The figures and descriptions of Dr. Sims in the Botanical Magazine, *B. glastifolia* (*t.* 2381), and *B. asteroides* (*t.* 2554), do not at all help to clear the difficulties. There the two species have the most striking resemblance.

62. BRACHYRIS. *Nutt.*

Radius uniserialis ♀. *Discus* ☿. *Pappus* paleaceus uniserialis, paleis linearibus, 5–8. *Cor.* disci regularis. *Achenium* obconicum erostre.—Herba *perennis, Boreali-Americana, erecta; foliis anguste linearibus, integris, punctatis; capitulis solitariis ternis, ramos fastigiatos, caulis terminalibus, radio et disco 5-floris; involucris cylindraceis; rachide nuda.* Less.

1. *B. Euthamiæ. Nutt. Gen. Am. v.* 2. *p.* 163.—Solidago Sarothræ. *Pursh, Fl. Am. v.* 2. *p.* 540.

HAB. High grounds of the Saskatchawan (*Drummond*) and Red Rivers. *Douglas.*

63. MADIA. *Molina.*

Radius fœmineus, uniserialis. *Discus* hermaphroditus. *Corolla* radii lingulata, lingula triloba tubum superante. *Achenium* erostre, tetragono-compressum, quadricostatum, disco

epigyno parvo. *Pappus* nullus.—Herbæ *Chilenses et oris occidentalis Americæ borealis, viscidæ, erectæ; foliis alternis, semiamplexicaulibus, oblongis; capitulis luteis, terminalibus vel axillaribus; rachide plana, nuda; involucris uniserialibus, pubescentibus.* Less.

1. *M. viscosa;* capitulis axillaribus solitariis multifloris, radiis conspicuis.—*α.* capitulis subsessilibus radiis parvis.—M. viscosa. *Cav. Ic. v.* 3. *p.* 50. *t.* 298. *Sims, Bot. Mag. t.* 2574.—Madia mellosa. *Mol.—Jacq. Hort. Schoenbr. v.* 3. *t.* 302. (excellent.)—M. sativa. *Mol.*—*β.* capitulis plerisque pedunculatis, radiis magnis.—M. elegans. *Don, in Bot. Reg. t.* 1458.

Hab. *α.* and *β.* Fort Vancouver on the Columbia. *Dr. Scouler. Douglas.*—The figure in the Botanical Register of *Madia elegans* is strangely altered, by cultivation in rich garden soil, from the form exhibited by the native plants from the Columbia. These differ very slightly from the more usual appearance of *M. viscosa*, as seen in specimens from Chili.

2. *M. glomerata;* capitulis (2–4) glomeratis paucifloris in corymbam terminalem dispositis, radiis obsoletis.

Hab. Plains of the Saskatchawan. *Drummond.*—Aware as I am that *Madia viscosa* is liable greatly to vary, I still cannot bring myself to consider the present as a state of that species. The inflorescence is a true compound corymb, the branches, which are leafy, bearing at the extremity a cluster of 3–5 few-flowered capitula, much narrower than those of *M. viscosa*, and apparently quite destitute of ray. This is the first time that any *Madia* has been found on the east side of the great chain of mountains which separates eastern from western America.

64. CRINITARIA. *Cass.*

Capitulum homogamum discoideum multi—(pauci-)–florum. *Rachis* ebracteolata. *Pappus* pilosus biserialis. *Achenium* erostre, compressum, sericeum.—Herbæ *per Europam, Asiam meridionalem* (*et Americam septentrionalem*) *crescentes; foliis alternis, confertis, linearibus, subintegerrimis; capitulis luteis, solitariis, ramulos corymbosim dispositos terminantibus; involucris pauciserialibus, foliaceis.* Less.

1. *C. viscidiflora;* glaberrima, foliis lineari-lanceolatis rigidis integerrimis acutissimis uninerviis basi angustatis, floribus fastigiato-corymbosis, pedunculis foliolosis, involucri glutinosi cylindrici 5-flori foliolis imbricatis oblongis exterioribus minoribus.

Hab. A common shrub, 2–4 feet high, on the barren plains of the Columbia, from the Great Falls to the Mountains, and along the Salmon River, N. W. America. *Douglas.*—My specimens of this are small and few. The species is in many respects allied to Nuttall's *Chrysocoma virgata*, but *that* is "*herbaceous*," and an inhabitant of swamps of New Jersey, near the coast. From the same author's *C. graveolens* it differs in the leaves being only single-nerved and the branches quite glabrous, not in the least "pulverulently tomentose."

2. *C.? humilis;* annua nana vage ramosa, ramis hic illic hirsutulis, foliis lineari-lanceolatis denticulato-ciliatis mucronulato-acutis, floribus axillaribus terminalibusque, involucri glabri foliolis linearibus exterioribus majoribus foliaceis.

Hab. On the banks of the Saskatchawan, between Carlton House and Edmonton House. *Drummond.*—I introduce this small plant (3–4 inches high) into this place with much hesitation; very few specimens are in the Herbarium, and its affinity with *Crinitaria* is highly doubtful. The flowers, however, sufficiently accord with the Genus.

Subtrib. II. Inuleæ. *Capitula nunquam dioica; si heterogama floribus marginalibus fœmineis sæpissime corollas lingulatas gerentibus, reliquis* ☿. *Rachis plerumque ebracteolata. Antheræ caudatæ. Pappus varius, nunquam gamophyllus, hinc inde nullus.* Less.

65. DONIA. *Br.*

Capitulum radiatum. *Pappus* setaceus, uniserialis, valde caducus, conformis, setis rigidissimis, subcorneis. *Cor.* floris fœminei lingulata. *Achenium* erostre. *Rachis* ebracteolata. —Fruticuli *Mexicani* (*Americæ septentrionalis*) *vel Canarienses, sæpe viscosi, foliis alternis, semiamplexicaulibus, oblongis, dentatis; capitulis magnis solitariis, terminalibus, luteis.* Less.

1. *D. glutinosa;* caule herbaceo ("fruticoso" alior.) erecto, foliis obovato-oblongis obtusiusculis cum mucrone ante apicem mucronato-dentatis vel integerrimis, involucri glutinosi foliolis exterioribus subulatis squarrosis.—*Br. Hort. Kew. ed.* 2. *v.* 5. *p.* 82. *Ker, Bot. Reg. t.* 187.—Aster glutinosus. *Cass.*—Doronicum. *Willd.*—Grindelia. *Spreng.*

Hab. Common on dry soils, from the source of the Columbia to its confluence with the Pacific. *Douglas.* —Nutka. *Dr. Scouler.*—Our specimens have a deep, perennial tap-root, but a decidedly herbaceous stem.

2. *D. squarrosa;* caule herbaceo valde ramoso, foliis omnibus oblongis amplexicaulibus serratis subglaucescentibus, involucri glutinosi foliolis exterioribus subulatis squarrosis.—*Pursh, Fl. Am. v.* 2. *p.* 559. *Sims, Bot. Mag. p.* 1706.—Grindelia squarrosa. *Rich. in Frankl.* 1*st Journ. ed.* 2. *App. p.* 33.

Hab. Woody country between lat. 54° and 64°. *Dr. Richardson.* Abundant on the banks of the Saskatchawan, between Carlton House and Edmonton House. *Drummond.* Plains of the Red River and vallies of the Rocky Moutains, on the east side. *Douglas.*

3. *D. inuloides;* caule basi suffruticoso apice pubescente, foliis glabris radicalibus spathulatis caulinis subovatis serratis basi latioribus subamplexicaulibus, pedunculis pubescentibus, involucri vix glutinosi foliolis exterioribus subulatis squarrosis.—Grindelia inuloides. *Desf. in Mem. du Mus. v.* 5. *p.* 50. *t.* 15.—β. ramis foliis involucrisque glanduloso-hirtis.—Grindelia inuloides. *Ker, in Bot. Reg. t.* 248. (excellent.)

Hab. β. Near the sources of the Multnomah River. *Douglas.*—The leaves of the whole upper part of the stem are ovate, acuminate, cordate at the base, and amplexicaul; and the species appears to me very distinct, although Sprengel has united it with *D. squarrosa.* Mr. Brown seems now inclined to unite his Genus *Donia* with *Grindelia.* I have followed Lessing in keeping them distinct.

4. *D. lanceolata;* herbacea, glabra, foliis rigidis ciliato-dentatis acutis radicalibus lanceolatis longe petiolatis, caulinis lineari-lanceolatis petiolatis superioribus acuminatis basi cordatis sessilibus amplexicaulibus, caule erecto simplici, floribus 4-5 subcorymbosis, involucri subtomentosi (non viscosi) foliolis oblongo-linearibus acutis imbricatis erectis exterioribus sensim minoribus.

Hab. Saskatchawan, between Carlton House and Edmonton House. *Drummond.*—*Root* fusiform, perennial, clothed above with the fibrous remains of the former year's root-leaves. *Stem* a foot and a half high.

5. *D. uniflora;* herbacea, subdecumbens, foliis rigidis radicalibus lanceolatis grosse acute dentatis acuminatis longe petiolatis, caulinis oblongo-lanceolatis sessilibus superioribus basi

latioribus amplexicaulibus, caulibus simplicibus lanatis unifloris, involucri lanati foliolis laxis erectis linearibus acutis exterioribus longioribus. (Tab. CXXIV.)

Radix perennis crassa fusiformis, superne foliorum vetustorum reliquiis fibrosis hispida. *Caules* 3–5 ex eadem radice, spithamæi et ultra, basi subdecumbentes, herbacei, lanati, simplices, 1-raro-2-3-flori. *Folia* radicalia, numerosa, lato-lanceolata, acuminata, glabra, juniora laxe lanata, grosse acute serrata, nunc, extima præcipue, omnino integerrima, longe petiolata. *Caulina* omnia sessilia, integerrima, inferioribus oblongo-lanceolatis superioribus sensim minoribus magis acuminatis basi latioribus amplexicaulibus. *Flos* plerumque solitarius, magnus. *Involucri foliola* subæqualia, erecta, laxa, linearia, lanata, acuta. *Radii flosculi* flavi, omnes papposi, pilis numerosis scabris. *Receptaculum* subalveolatum. *Achenia* pilosa, superne præcipue pilis erectis sericeis.

Hab. Plains of the Saskatchawan and Prairies of the Rocky Mountains. *Drummond.*

Tab. CXXIV.—*Fig.* 1, Floret of the ray; *fig.* 2, Floret of the disk:—*magnified.*

COMPOSITÆ *Omissæ.*

Post *Eupatorium occidentale, v.* 1. *p.* 305, *adde*

5.* *Eupatorium? grandiflorum;* glabrum, foliis alternis petiolatis cordato-triangularibus acuminatis grosse serratis venosis, paniculæ floribus glomeratis, involucri foliolis multiserialibus lineari-oblongis acutis striatis exterioribus e lata basi subulatis subsquarrosis, acheniis cylindraceis striatis scabridis.

Hab. On the low hills between the north and south branches of Lewis and Clarke's River, in stony places. *Douglas.*—Three to four feet high, herbaceous. *Stem* rounded. *Flowers* large, white, clustered. The leaves bear a considerable resemblance to those of *E. occidentale*, but the flowers are totally different, larger than is usual in this Genus, each of many florets, and with the stigmas less exserted than usual. I possess only a solitary specimen.

Post *Ambrosiam acanthicarpam, v.* 1. *p.* 309, *adde*

4. *A. trifida;* elata scaberrima, foliis (amplis) petiolatis integris vel profunde 3–5-fidis serratis segmentis ovali-lanceolatis acuminatis, racemis elongatis paniculatis, fructu supra medium spinis 6 brevibus erectis.—*Linn.*—*Mich. Am. v.* 2. *p.* 183. *Pursh, Fl. Am. v.* 2. *p.* 581. *Elliott, Carol. v.* 2. *p.* 476.

Hab. Canada. Common. *Dr. Holmes* (*in Herb. Greville.*)

Ord. LII. CAMPANULACEÆ. *Br.*

Sect. I. Campanuleæ. *Cor. monopetala, regularis. Antheræ liberæ. Br.*

1. CAMPANULA. (*L.*) *Alph. De Cand.*

Cal. 5-fidus, sinubus sæpe appendicibus obtectis. *Corolla* apice 5-loba, vel 5-fida, sæpius campanulata. *Stam.* 5, libera, filamentis basi latis et membranaceis. *Stylus* in alabastro pilis collectoribus (excepta ima basi) tectus. *Stigmata* 3–5, filiformia. *Ovarium* omnino inferum, 3–5-loculare. *Capsula* valvis 3–5, lateraliter dehiscens. *Semina* sæpius ovata, complanata, interdum ovoidea et tunc minima.—Herbæ *perennes, rarius biennes v. annuæ; nunc humiles et cæspitantes, nunc contra* 2–3-*pedales, erectæ et multifloræ.* Folia *radicalia a*

caulinis sæpissime diversa, nempe majora, longius petiolata et obtusa. Flores *plerumque pedunculati racemosi rarius spicati v. glomerati, pro ordine majusculi, cærulei vel* (*in eadem specie*) *albi. Omnes in hemisphera boreali habitantes. Alph. D. C.*

1. *C. dasyantha;* foliis radicalibus ovato-acutis petiolatis crenatis glabriusculis, caulinis sessilibus lanceolatis integris pubescentibus, lobis calycinis ovato-lanceolatis acutis corolla infundibuliformi triplo brevioribus, sinuum appendicibus minimis subulatis. *Alph. De Cand.*—*Bieb. Fl. Taur. Cauc. Suppl. p.* 147. *Reich. Ic. v.* 1. *t.* 85. *Cham. in Limnæa, v.* 4. *p.* 37. *Alph. De Cand. Camp. p.* 230.

Hab. Unalaschka and Islands of Behring's Straits. *Chamisso.*

2. *C. petiolata;* glaberrima simplex pauciflora, foliis radicalibus longe petiolatis cordatis rotundatis dentatis petiolatis marginatis, caulinis inferioribus lanceolatis remote dentatis petiolatis, superioribus linearibus integris, lobis calycinis erectis subulatis corolla campanulata duplo brevioribus. *Alph. De Cand. Camp. p.* 278.

Hab. Slave Lake. *Dr. Richardson.*

3. *C. linifolia;* caule erecto, foliis radicalibus paucis petiolatis ovatis sinuatis, caulinis linearibus integris, laciniis calycinis longis erectis corolla campanulata ampla duplo vel triplo brevioribus. *Alph. De Cand. Camp. p.* 179. *Hænk. in Jacq. Coll. v.* 2. *p.* 81.—C. rotundifolia, β. linifolia. *Rich. in Frankl.* 1*st Journ. ed.* 2. *App. p.* 6.—δ. *Langsdorffiana;* glabra, caule erecto subunifloro, foliis radicalibus ovato-rotundatis integris, caulinis inferioribus obovato-lanceolatis. *Alph. De Cand.*

Hab. From Lake Huron, *Dr. Todd,* throughout the woody country, from lat. 54° to 64°. *Dr. Richardson.* Common on the N.W. Coast, and on the banks of the Columbia, from its source to its confluence with the sea, and at Puget's Sound. *Douglas.* Port Wentworth and Sledge Island, Behring's Straits. *Mr. Menzies.*—δ. Arctic America, from Greenland (*Hornemann*) to the Aleutian Islands. *Langsdorff* (*in Alph. De Cand.*)—My specimens from Mr. Menzies and Douglas exactly correspond with the European ones.

4. *C. rotundifolia;* foliis radicalibus petiolatis cordatis rotundatis crenato-dentatis, caulinis linearibus vel lanceolatis, alabastris erectis, calycis laciniis subulatis brevibus erectis corolla campanulata triplo brevioribus. *Alph. De Cand.*—*Linn.*—*Mich. Am. v.* 1. *p.* 108. *Engl. Bot. t.* 866. *Pursh, Fl. Am. v.* 1. *p.* 159. *Rich. in Frankl.* 1*st Journ. ed.* 2. *App. p.* 65. *Torrey, Fl. of Un. St. v.* 1. *p.* 236. *Alph. De Cand. Camp. p.* 68.

Hab. Throughout the woody country, between lat. 54° and 64°. *Dr. Richardson, l. c.* Near Quebec. *Mrs. Percival.*—I have seen no specimens from the west side of the Rocky Mountains; and, indeed, all those in Captain Franklin's Collection are referable, I think, rather to *C. linifolia,* if the two be really distinct.

5. *C. dubia;* glabra, caule unifloro, foliis caulinis erectis angustis inferioribus lineari-lanceolatis, superioribus longe acuminatis, lobis calycinis subulatis corolla infundibuliformi tubulosa duplo brevioribus. *Alph. De Cand. Camp. p.* 286. (*et in Herb. nostr.*)

Hab. Newfoundland. *Dr. Morrison.*—I should myself be disposed to consider this a single-flowered var. of *C. linifolia.*

6. *C. pratensis;* caule humili unifloro superne magis folioso, foliis omnibus petiolatis ovato-

acutis subcrenatis, laciniis calycinis longe acuminatis corolla infundibuliformi $\frac{1}{3}$ brevioribus. *Alph. De Cand. Camp. p.* 287.—β. foliis caulinis angustioribus linearibus. *Alph. De Cand.*

Hab. Near the Coast on the western side of Newfoundland. *De la Pylaie* (*in Alph De Cand. Camp.*)

7. *C. aparinoides;* glabra, caule debili ascendente simplici paucifloro angulis retro-scabro, foliis inferioribus lineari-obovatis aliis lineari-acuminatis remote denticulatis retrorsum scabris, lobis calycinis triangularibus corolla campanulata duplo brevioribus, capsula sphæroidea. *Alph. De Cand.*—*Pursh, Fl. Am. v.* 1. *p.* 159. *Torrey, Fl. of Un. St. v.* 1. *p.* 237. *Alph. De Cand. Camp. p.* 290.—C. erinoides. *Muhl.*—*Bigel. Fl. Bost. ed.* 2. *p.* 85. *Elliott, Carol. v.* 1. *p.* 263.

Hab. Canada. *Mr. Goldie.* From Lake Huron (*Dr. Todd*) to the Saskatchawan. *Drummond.*

8. *C. Scouleri;* simplex vel ramosa pauciflora, foliis acute serratis glabriusculis inferioribus ovato-acutis petiolatis mediis ovato-lanceolatis superioribus lineari-lanceolatis sessilibus, floribus racemosis, calycis glabri lobis subulatis corolla 5-fida infundibuliformi triplo brevioribus, stylo exserto, capsula ovoidea. (Tab. CXXV.)—*Hook. in Alph. De Cand. Camp. p.* 312.—α. *hirsutula;* lobis calycinis magis erectis.—β. *glabra;* lobis calycinis patentissimis, foliis majoribus tenuioribus.

Hab. Fort Vancouver on the Columbia. *Dr. Scouler.* β. Common in partially shaded Pine Forests, on the N.W. Coast. Plentiful about Fort Vancouver. *Douglas. Dr. Scouler.*

Tab. CXXV.—*Fig.* 1, Flower; *fig.* 2, Immature capsule:—*magnified.*

9. *C. planiflora;* glaberrima, caule simplici, foliis sessilibus coriaceis nitidis radicalibus confertis ovatis vel obovato-obtusis crenulatis, caulinis lineari-lanceolatis acutis subintegris, floribus spicato-racemosis, lobis calycinis ovato-acutis latis erectis corolla campanulato-rotata triplo brevioribus. *Alpd. De Cand.*—*Lam. Dict.*—*Alph. De Cand. Camp. p.* 312.—C. nitida. *Ait. Hort. Kew. ed.* 1. *v.* 1. *p.* 246. *Pursh, Fl. Am. v.* 2. *p.* 731.

Hab. North America; and Pursh supposes, but upon very vague authority, from Hudson's Bay. I have never seen any plant like it from that country, and the American Botanists seem to be unacquainted with it.

10. *C. Americana;* caule simplici, foliis radicalibus ovato-acutis subcordatis petiolatis serratis, caulinis ovato-lanceolatis utrinque acuminatis serrulatis, floribus longe spicatis, lobis calycinis valde acuminatis patulis corolla campanulato-rotata subbrevioribus, capsula cylindracea sulcata. *Alph. De Cand.*—*Linn.*—*Pursh, Fl. Am. v.* 1. *p.* 159. *Torrey, Fl. of Un. St. v.* 1. *p.* 237. *Alph. De Cand. Camp. p.* 314.—C. acuminata. *Mich. Am. v.* 1. *p.* 108. *Pursh, l. c. Elliott, Carol. v.* 1. *p.* 262. *Torrey, Fl. of Un. St. l. c.*

Hab. On rocks about the Falls of Niagara, *Mr. Cooper,* (*in Torrey's Fl.*)—I have never seen specimens of this from British America.

11. *C. lasiocarpa;* caule unifloro nudiusculo, foliis radicalibus confertis lanceolato-obovatis setaceo-denticulatis, petiolis ciliatis, calyce tubo villoso lobis acuminatis denticulatis, corolla infundibuliformi campanulata lobis calycinis duplo longiore, capsula subcylindracea. *Alph. De Cand.*—*Cham. in Linnæa, v.* 4. *p.* 39. *Hook. et Arn. in Bot. of Beech. Voy. v.* 1. *p.* 127.—C. algida. *Fisch. MSS.*—*Alph. De Cand. Camp. p.* 338. *t.* 11. *f.* 4.

Hab. Summits of the highest of the Rocky Mountains, near Lake La Pierre. *Drummond.* Unalaschka, Sledge and Hedge Islands, in Behring's Straits, Kotzebue's Sound. *Lay and Collie, in Captain Beechey's Collection.*

12. *C. uniflora;* caule unifloro, foliis subintegris inferioribus obovatis petiolatis, mediis obovato-lanceolatis, superioribus rarioribus lineari-lanceolatis, calyce villosiusculo, lobis lineari-acuminatis corolla infundibuliformi subæqualibus, capsula cylindracea. *Alph. De Cand.—Linn.—Fl. Dan. t.* 1512. *Rich. in Frankl.* 1*st Journ. ed.* 2. *App. p.* 6. *Alph. De Cand. Camp. p.* 339.

Hab. Shores and Islands of the Arctic Sea, from the eastern to the western extremity. Alpine places in the Rocky Mountains. *Drummond.*

2. SPECULARIA. *Heist.*

Calyx 5-lobus, tubo elongato prismatico vel longe obconico. *Corolla* rotata, 5-loba. *Stam.* 5, inter se libera, corolla dimidio breviora; *filamenta* brevia, membranacea, pilosa; *antheræ* filamentis longiores. *Stylus* inclusus, pilosus, pilis secundum ordines 10 dispositis. *Stigmata* tria, filiformia. *Capsula* longe prismatica, 3-locularis, 3-valvis, prope apicem vel paullo supra mediam partem sitis dehiscens. *Semina* ovoidea vel lenticularia, subcompressa, nitidissima.—Herbæ *annuæ, humiles, in regione maris Mediterranei et Europa temperata præcipue habitantes: una species tantum in America.* Folia *alterna, per caulem æqualiter sparsa parva; inferiora ab aliis parum dissimilia.* Flores *terminales et axillares, semper sessiles erecti.* Corolla *cærulea, rosea vel ex albo et cæsio variegata, sole lucente rotata. Alph. De Cand.*

1. *S. perfoliata;* caule erecto simplici, foliis ovato-rotundatis crenatis amplexicaulibus, floribus axillaribus longe foliaceo-spicatis, calyce glabro, tubo obconico lobis erectis lanceolatis, corolla lobis calycinis longiore.—*Alph. De Cand. Camp. p.* 351.—Campanula perfoliata. *Linn.—Pursh, Fl. Am. v.* 1. *p.* 160.—*Bigel. Fl. Bost. ed.* 2. *p.* 85.—Campanula amplexicaulis. *Mich. Am. v.* 1. *p.* 108. *Elliott, Carol. v.* 1. *p.* 262. *Torrey, Fl. of Un. St. v.* 1. *p.* 256.

Hab. N.W. Coast of America; about the Columbia. *Douglas. Dr. Scouler.*

Sect. II. Lobeliæ. *Corolla irregularis* (*nunc* 5-*petala*). *Antheræ sæpe connatæ. Br.*

3. LOBELIA. *L.*

Corolla tubo hinc fisso (raro integro) limbo 5-partito. *Antheræ* connatæ. *Stigma* bilabiatum (nunc indivisum). *Capsula* bilocularis (raro 3-loc.), apice supero bivalvi.—Herbæ (*vel* suffrutices) *pleræque lactescentes.* Folia *alterna integra vel laciniata, raro fistulosa.* Flores *racemosi, terminales vel axillares, solitarii, pedicellis bibracteatis v. nudis.* Antheræ *sæpius barbatæ. Br.*

1. *L. Dortmanna;* foliis radicalibus subcylindricis obtusis bitubulosis, scapo parce folioso, floribus racemosis.—*Linn.—Engl. Bot. t.* 140. *Mich. Am. v.* 2. *p.* 153. *Pursh, Fl. Am. v.* 2. *p.* 446. *Bigel. Fl. Bost. ed.* 2. *p.* 87. *Torrey, Fl. of Un. St. v.* 1. *p.* 239.—L. paludosa. *Nutt.*

Hab. Slave Lake, English River, and in a small Lake at the summit of Portage la Loche. *Dr. Richardson.*

2. *L. Kalmii;* glabra, caule erecto gracili ramoso, foliis lineari-elongatis subdentatis radicalibus brevibus spathulatis, racemis laxis paucifloris subfoliosis, pedicellis elongatis biglandulosis, calycis glaberrimi laciniis subulatis, germine basi attenuato.—*Linn.*—*Mich. Am. v.* 2. *p.* 153. *Pursh, Fl. Am. v.* 2. *p.* 446. *Bigel. Fl. Bost. ed.* 2. *p.* 86. *Torrey, Fl. of Un. St. v.* 1. *p.* 239.

Hab. From Lake Huron, *Dr. Todd,* throughout Canada to the Saskatchawan and Hudson's Bay, and in saline marshes in lat. 60°. *Dr. Richardson.*—The *L. gracilis* of Mr. Nuttall (*L. Nuttallii,* Roem. et Sch.), is a still slenderer plant than the present, with smaller flowers, shorter pedicels, bibracteate at the base, but destitute of the two glands upon the pedicel, and the germen is obtuse at the base.

3. *L. Claytoniana;* erecta simplex pubescens, foliis oblongis subintegerrimis ciliatis basi attenuatis, radicalibus obovato-spathulatis, racemo gracili elongato nudo, bracteis solitariis pedicello eglanduloso longioribus, calycis glabri laciniis subulatis tubo corollæ parum brevioribus.—*Mich. Am. v.* 2. *p.* 153. *Pursh, Fl. Am. v.* 2. *p.* 447. *Elliott, Carol. v.* 1. *p.* 265. *Torrey, Fl. of Un. St. v.* 1. *p.* 240.—L. pallida. *Muhl.*—*Bigel. Fl. Bost. ed.* 2. *p.* 86.—L. spiçata. *Lam.*

Hab. On the Saskatchawan, apparently rare, as very few specimens are in the Collection. *Drummond.*

4. *L. inflata;* pubescens, caule erecto simplici vel ramoso, foliis oblongo-ovalibus dentatis inferioribus in petiolum brevem attenuatis, racemis basi foliosis, capsulis globosis inflatis.—*Linn.*—*Mich. Am. v.* 2. *p.* 152. *Pursh, Fl. Am. v.* 2. *p.* 448. *Bigel. Fl. Bost. ed.* 2. *p.* 86. *Elliott, Carol. v.* 1. *p.* 266.

Hab. Lake Huron, *Dr. Todd,* to the Saskatchawan and Hudson's Bay. *Dr. Richardson. Drummond.*

5. *L. syphilitica;* subhirsuta, caule erecto simplici, foliis ovato-lanceolatis utrinque breviacuminatis dentatis infimis in petiolum attenuatis, racemo elongato basi folioso, calycis hirsuti laciniis subulatis tubo corollæ brevioribus sinubus reflexis.—*Linn.*—*Mich. Am. v.* 2. *p.* 151. *Pursh, Fl. Am. v.* 2. *p.* 447. *Elliott, Carol. v.* 1. *p.* 256.

Hab. Lake Huron, abundant. *Dr. Todd.*—*Flowers* blue, vastly larger than any of the preceding species, and next in size to those of *L. cardinalis.*

6. *L. cardinalis;* glabra, caule erecto simplici, foliis lato-lanceolatis serratis, racemis elongatis secundis, floribus erectis, calycis glabri laciniis subulatis tubo elongato corollæ brevioribus, staminibus exsertis.—*Linn.*—*Curt. Bot. Mag. t.* 320. *Mich. Am. v.* 2. *p.* 151. *Pursh, Fl. Am. v.* 2. *p.* 448. *Bigel. Fl. Bost. ed.* 2. *p.* 85. *Torrey, Fl. of Un. St. v.* 1. *p.* 242.

Hab. Throughout Canada, from Lake Huron to the Saskatchawan. *Dr. Richardson. Drummond.*

4. CLINTONIA. *Dougl.*

Cal. superus, pentaphyllus, subæqualis. *Corolla* monopetala, bilabiata, labio inferiore cuneato trilobo superiore erecto bipartito. *Stamina* in tubo connata, incurva. *Antheræ* connatæ, duabus apice setigeris. *Ovarium* siliquiforme triangulare, contortum, uniloculare, placentis duabus parietalibus. *Capsula* arida, chartacea, polysperma, in valvulis tribus lo-

riformibus dehiscens.—Herba *annua, procumbens, microphylla.* Flores *solitarii, axillares. Lindl.*

1. *C. elegans. Dougl. in Bot. Reg. t.* 1241.

Herba annua procumbens, parum ramosa, glabra. *Caulis* teres, angulatus. *Folia* sessilia, ovata, trivenia. *Flores* solitarii, axillares. *Ovarium* sessile, longe acuminatum, foliis 4–5-plo longius, triangulare, contortum. *Corolla* cærulea, labio inferiore medio macula alba. *Antheræ* cæruleæ. *Stigma* conicum, barba papillosa circumdatum. *Capsulæ* foliis multoties longiores. *Pollen* ovale medio sulcatum. *Lindl. l. c.*

Hab. Common on overflowed grounds, near the sources of the Multnomack, and in the vallies of the western side of the Rocky Mountains. *Douglas.*—I have preferred giving Professor Lindley's remarks upon this interesting plant, made from living specimens, to any I could offer from the dried one. The same able Botanist observes that it exhibits an instance of unilocular fruit with parietal placentæ, in an Order which has multilocular fruit and axile placentæ; yet, what is very remarkable, this deviation from the normal structure of the Order is unaccompanied by any corresponding irregularity in the other parts of the fructification. As cultivated in the London Horticultural Society's Garden, "it forms one of the most beautiful annuals with which we are acquainted. Notwithstanding the want of spreading foliage to give its flowers effect, the latter are of so brilliant a colour, that the plants, when grown in broad patches, resemble a carpet of silver and blue."

Ord. LIII. VACCINIEÆ. *De Cand.*

1. VACCINIUM. *Linn.*

Cal. ovario adhærens limbo 4–5-dentato. *Cor.* 1-petala, ovata, campanulata seu rotata limbo 4–5-fido. *Stam.* 8, perigyna. *Antheræ* bicornes apice poris dehiscentes, dorso non raro bisetosæ. *Ovarium* subglobosum. *Stylus* simplex. *Stigma* obtusum. *Bacca* globosa, 4–5-locularis. *Semina* pauca, minuta. Frutices *humiles.* Folia *sparsa latiuscula, decidua vel persistentia exstipulata.* Flores *sæpe ante folia, solitarii vel racemosi, nutantes, inodori. sæpissime incarnati.* Baccæ *plerumque edules.*

A. corollis ovatis seu campanulatis. Vaccinium.

** Foliis deciduis. Floribus racemosis.*

1. *V. resinosum ;* foliis brevi-petiolatis ovali-oblongis integerrimis opacis subtus præcipue resinoso-punctatis, racemis lateralibus secundis bracteatis, corollis ovatis subangulatis.—*Ait.* —*Mich. Am. v.* 1. *p.* 230. *Bot. Mag. t.* 1288. *Pursh, Fl. Am. v.* 1. *p.* 286. *Elliott, Carol. v.* 1. *p.* 498. *Bigel. Fl. Bost. ed.* 2. *p.* 150. *Torrey, Fl. of Un. St. p.* 416.

Hab. Canada. *Pursh. Mrs. Sheppard.* Lake Huron. *Dr. Todd,* to the Saskatchawan. *Drummond.*

2. *V. corymbosum ;* ramis floriferis subaphyllis, foliis oblongo-lanceolatis integerrimis junioribus pubescentibus, racemis compactis bracteatis, corollis ovato-cylindraceis.—*Linn.* —*Pursh, Fl. Am. v.* 1. *p* 286. *Elliott, Carol. v.* 1. *p.* 498. *Bigel. Fl. Bost. ed.* 2. *p.* 150. *Torrey, Fl. of Un. St. v.* 1. *p.* 416.—V. dimorphum. *Mich. Am. v.* 1. *p.* 231.—V. amænum. *Ait.—Pursh.*

Hab. About Quebec. *Cleghorn. Mrs. Percival.* Lake Huron. *Dr. Todd.* Newfoundland. *Dr. Morrison.*—Pursh describes the berries as black, Bigelow, as being covered with a blue powder.

3. *V. Pennsylvanicum;* foliis sessilibus ovali-lanceolatis subserrulatis junioribus nervis pubescentibus, racemis fasciculatis subterminalibus, corollis ovatis.—*Lam. Dict. v.* 1. *p.* 72. *Mich. Am. v.* 1. *p.* 232. *Torrey, Fl. of Un. St. v.* 1. *p.* 416.—V. tenellum. *Pursh, Fl. Am. v.* 1. *p.* 288. *Bigel. Fl. Bost. ed.* 2. *p.* 150. (non *Ait.*)

Hab. From Lake Huron, *Dr. Todd,* throughout Canada to the Saskatchawan. *Drummond. Dr. Richardson.* Newfoundland. *Dr. Morrison.*—This appears to be a very common species in Canada, judging from the number and various localities of the specimens that have been sent to me. Some of these, indeed, so far as can be judged in the dried state, seem to be very nearly allied to *V. corymbosum,* differing chiefly in the smaller size, more frequently serrulated leaves which are most copious on the flowering branches, and the shorter corollas. Berries clothed with a blue farina.

4. *V. Canadense;* foliis oblongo-lanceolatis integerrimis subtus præcipue pubescentibus ad nervos patenti-hirsutis, floribus fasciculato-racemosis, corollis ovatis.—*Rich. in Frankl.* 1*st Journ. ed.* 2. *App. p.* 12.

Hab. Throughout Canada from Lake Huron (*Drummond,*) to Bear Lake, (*Dr. Richardson,*) and from Missinabbie River, Hudson's Bay (*Mr. Bolton, Douglas,*) to the sources of the Columbia, (*Drummond,*) and thence probably to the mouth of that river, (*Douglas.*)—Of this, the flowers, fruit, and the foliage, in shape, very much resemble those of *V. Pennsylvanicum,* but the leaves, especially below, and in the oldest state, are clothed with a rather copious pubescence, and the nerves are rendered more conspicuous by the abundant spreading hairs. Berries as in the preceding species.

* * *Foliis deciduis. Pedunculis unifloris.*

5. *V. uliginosum;* foliis obovatis obtusis integerrimis subtus glaucis venosis, floribus subsolitariis, corollis ovatis.—*Linn.*—*Engl. Bot. t.* 581, (foliis nimis acutis.) *Mich. Am. v.* 2. *p.* 235. *Pursh, Fl. Am. v.* 1. *p.* 288. *Rich. in Frankl.* 1*st Journ. ed.* 2. *App. p.* 12. *Bigel. Fl. Bost. ed.* 2. *p.* 153. *Torrey, Fl. of Un. St. v.* 1. *p.* 417.

Hab. From the Saskatchawan and Hudson's Bay to the extreme Arctic shores and islands. *Dr. Richardson. Drummond.* Newfoundland. *Mr. Cormack. Dr. Morrison.* Labrador. *Dr. Morrison.* N. W. coast of America, probably far north of the Columbia. *Mr. Menzies.* Unalaschka. *Chamisso.*—In the low lands this plant does not appear to exist south of the Saskatchawan. In the United States, the summits of the White Hills of New Hampshire, where it was first detected by Dr. Bigelow, and Dr. Boott, is the only known station for it. A variety, slightly downy on the underside, found in Greenland, is the *V. pubescens* of Hornemann in *Fl. Dan.*, of which specimens are in my Herbarium.

6. *V. salicinum;* foliis cuneato-lanceolatis cuspidatis integerrimis glaberrimis subcoriaceis reticulato-venosis, floribus solitariis breviter pedunculatis axillaribus. *Cham. in Linnæa, v.* 1. *p.* 525.

Hab. Unalaschka. *Chamisso,* (in Herb. nostr.)—This has remarkably narrow and cuspidate leaves.

7. *V. myrtilloides;* foliis ovalibus utrinque acutiusculis subserratis opacis membranaceis junioribus ad nervos subpubescentibus, floribus ovato-globosis axillaribus solitariis.—*Mich. Am. v.* 1 *p.* 234. *Pursh, Fl. Am. v.* 1. *p.* 288.—V. angustifolium. *Ait. Hort. Kew. ed.* 1.—*β. macrophylla;* foliis majoribus. V. Myrtillus, var. *Sm. in Rees' Cycl.*—V. membranaceum. *Dougl. MSS.*—*γ.*? *rigidum;* foliis subcoriaceis.

Hab. Canada to Hudson's Bay. *Michaux.* Newfoundland and Labrador. (*Ait.*) Lake Huron. *Dr. Todd.* Hills and alpine woods of the Rocky Mountains. *Drummond.* Summit of the high mountains of the Grand Rapids and vallies on the west side of the Rocky Mountains; a common fruit, purplish-brown, and much esteemed by the natives. *Douglas.*—β. and γ. N.W. Coast. *Mr. Menzies.*—Michaux's name is certainly very applicable to this plant; more so than his character of the leaves (folia angusto-lanceolata). On the other hand, Aiton's character, especially of the leaves (elliptico-lanceolata), is more correct than his name; hence I have preferred Michaux's, though the Hortus Kewensis has the right of priority. I am doubtful about Mr. Menzies' plant, which has thicker and more coriaceous, and somewhat shining foliage.

8. *V. Myrtillus;* ramis acute angulatis viridibus, foliis ovatis serratis glaberrimis nitidis, floribus solitariis.—*Linn.*— *Engl. Bot. t.* 456.—β. *microphyllum;* foliis 2–3-lineas longis.

Hab. Unalaschka? *Chamisso.*—β. Alpine woods near the Height of Land and Columbia Portage. *Drummond.*—The specimens have no flower, but there can be no question of this plant being a variety of *V. Myrtillus.* Chamisso's specimens from Unalaschka were so imperfect that he could not determine whether they really belonged to this species or not; their leaves are said to be entire at the margin, or with a very few and obsolete teeth.

9. *V. cæspitosum;* pusillum, ramis cæspitosis, foliis obovatis basi cuneatis membranaceis serratis venosis nitidis, floribus (numerosis) solitariis, corollis oblongis suburceolatis, antherarum poris longe tubulosis. (Tab. CXXVI.)—*Mich. Am. v.* 1. *p.* 234. *Pursh, Fl. Am. v.* 1. *p.* 288.—β. foliis majoribus.

Radix longe descendens. *Caules* breves, cæspitosi. *Folia* densa, parva, obovata vel oblongo-ovata, basi cuneato-attenuata, serrata, membranacea, reticulatim venosa. *Flores* numerosi, solitarii, pendentes. *Pedicelli* breves. *Corolla* oblonga, suburceolata, 5-dentata. *Antheræ loculi* superne valde producti, tubulosi, dorso longissime aristati. *Baccæ* magnæ, globosæ, cæruleo-cæsiæ, edules.

Hab. About Hudson's Bay. *Michaux.* Dry elevated spots, and in pine woods of the Rocky Mountains; about Lake Winipeg, and on the Saskatchawan. *Drummond.* In the vallies on the west side of the Rocky Mountains. *Douglas.*—β. N.W. Coast. *Mr. Menzies.*

Tab. CXXVI.—*Fig.* 1, Flower; *fig.* 2, Stamen; *fig.* 3, Pistil.

10. *V. ovalifolium;* foliis ellipticis muticis membranaceis integerrimis glabris subtus præcipue venosis, ramulis angulatis, floribus ante folia bracteatis solitariis, corollis oblongo-ovatis. (Tab. CXXVII.)—*Sm. in Rees' Cycl.*

Frutex 10–12-pedalis. *Rami* teretes, glabri: *ramuli* angulati. *Folia* adulta unciam longa, elliptica, membranacea, glabra, subtus præcipue venosa. *Flores* axillares, solitarii, pendentes, e fasciculis foliorum juniorum terminalium, bracteati; bracteis ovatis, concavis, caducis. *Corolla* ovato-oblonga, suburceolata. *Antheræ* loculi superne longe producti tubulosi, dorso bisetosæ. *Bacca* cæsio-nigra.

Hab. North-west Coast of America. *Mr. Menzies.* Columbia River, near its confluence with the Sea, (*Dr. Scouler*), and on the mountains of the Grand Rapids. *Douglas.* Woods at the junction of the Portage River and the Columbia.

Tab. CXXVII.—*Fig.* 1, Tuft of young leaves, and a flower; *fig.* 2, Front view of a stamen; *fig.* 3, Back view of do.; *fig.* 4, Flower:—*magnified.*

11. *V. parvifolium;* foliis ellipticis mucronatis integerrimis membranaceis glabris subtus glaucis venosis, caule ramisque acute angulatis, floribus solitariis, corollis globosis. (Tab. CXXVIII.)—*Sm. in Rees' Cycl.*

Tota glabra. *Caulis* acute tetragonus, angulis fere alatis, ramis acute angulatis. *Folia* alterna, subdisticha, elliptica, mucronata, membranacea, integerrima, glabra, supra obscure subtus magis venosa subglauca. *Flores* axillares, penduli. *Pedunculi* superne incrassati. *Corolla* globosa, 5-fida. *Antheræ* fere ut in *V. ovalifolio*. *Baccæ* rubræ.

Hab. North-west Coast. *Mr. Menzies.* Common at Fort Vancouver, and along the sea-shore of the Columbia, in shady woods. *Douglas. Dr. Scouler.*

Tab. CXXVIII.—*Fig.* 1, Flower; *fig.* 2, Anther:—*magnified.*

* * * *Foliis sempervirentibus.*

12. *V. Vitis Idæa;* foliis obovatis subtus pallidis punctatis marginibus parum revolutis subintegerrimis, racemis brevibus terminalibus nutantibus, corollis campanulatis, antheris muticis.—*Linn.—Engl. Bot. t.* 598. *Mich. Am. v.* 1. *p.* 229. *Pursh, Fl. Am. v.* 1. *p.* 269. *Bigel. Fl. Bost. ed.* 2. *p.* 150. *Torrey, Fl. of Un. St. v.* 1. *p.* 418.

Hab. Canada (*Pursh*), and from Newfoundland (*Dr. Morrison, Miss Brenton*) and Labrador (*Dr. Morrison*) to Hudson's Bay (*Douglas*). Bear Lake. *Dr. Richardson.* N. W. Coast. *Menzies* (in *Herb. nostr.*) Unalaschka. *Chamisso* (in *Herb. nostr.*)

13. *V. ovatum;* ramis hispidis, foliis ovatis vel ovato-lanceolatis coriaceis glabris nitidis margine serratis revolutis, racemis brevibus axillaribus nutantibus, corollis campanulato-globosis 5-dentatis, dentibus calycinis majusculis acutis.—*Pursh, Fl. Am. v.* 1. *p.* 290. *Lindl. in Bot. Reg. t.* 1354.

Hab. Columbia. *Menzies. Lewis.* Common in rocky places on the N. W. Coast, from lat. 40° to 49°. *Douglas. Dr. Scouler.*—Fruit black and pleasant. *Douglas.*

14. *V. obtusum;* repens, foliis parvis utrinque rotundatis obtusis mucronatis integerrimis glabris coriaceis, pedunculis axillaribus solitariis unifloris. *Pursh, Fl. Am. v.* 1. *p.* 290.

Hab. North-West Coast. *Menzies.* (in *Herb. Banks.* according to Pursh.)—This is placed by Pursh among the species with evergreen persistent leaves; but it is a plant unknown to myself, as it was to Sir James E. Smith.

B. Corollis rotatis. Oxycoccos.

15. *V. Oxycoccos;* repens filiformis, foliis persistentibus ovatis acutis coriaceis glabris aveniis subtus glaucis, pedunculis 1–4 elongatis terminalibus, corollis 4-partitis.—*Linn.—Mich. Am. v.* 1. *p.* 228. *Engl. Bot. t.* 319.—Oxycoccos vulgaris. *Pursh, Fl. Am. v.* 1. *p.* 263. *Torrey, Fl. of Un. St. v.* 1. *p.* 394.—O. palustris, *α. Pers.—Rich. in Frankl.* 1*st Journ. ed.* 2. *App. p.* 12.

Hab. Canada. *Pursh.* Swampy places, from Lake Huron (*Dr. Todd*), Newfoundland (*Mr. Cormack, Miss Brenton*), Labrador (*Dr. Morrison*) to the Rocky Mountains, (*Drummond*), and to the Arctic sea-shore. *Dr. Richardson, Captain Sir E. Parry, &c.*

16. *V. macrocarpum;* repens, ramis erectis, foliis persistentibus oblongis coriaceis glabris venosis subtus albidis, pedunculis lateralibus elongatis basi bracteatis aphyllis, corollis 4-partitis.—*Ait.—Bot. Mag. t.* 2086. *Bigel. Fl. Bost. ed.* 2. *p.* 154.—V. Oxycoccos, *β.* oblongifolium. *Mich. Am. v.* 1. *p.* 228.—Oxycoccos macrocarpus. *Pursh, Fl. Am. v.* 1. *p.* 263. *Torrey, Fl. of Un. St. v.* 1. *p.* 393.

Hab. Lake Huron. *Dr. Todd.* Throughout Canada to the Saskatchawan. *Dr. Richardson. Drummond.* Newfoundland. *Dr. Morrison. Mr. Cormack. Miss Brenton.* Plentiful in swampy grounds near the confluence of the Columbia with the Pacific, where its berries are boiled and eaten by the natives under the name of *Soolabich. Douglas.*

SUBCL. COROLLIFLORÆ. *DC.*

Ord. LIV. ERICEÆ. *Juss.*

1. GAULTHERIA. *L.*

Cal. 5–4-fidus, basi carnosus infra bracteatus. *Corolla* ovata, limbo brevi 5–4-fido. *Stam.* 10–8. *Filamenta* plana sæpe hirsuta, imæ corollæ inserta v. hypogyna. *Antheræ* apice bifidæ, lobis biaristatis vel muticis. *Discus* hypogynus 5–10-dentatus vel nullus. *Capsula* calyce baccato inclusa, 5–locularis, valvis medio septiferis. *Semina* angulata.

1. *G. procumbens*; caule procumbente, ramis erectis inferne nudis, foliis obovatis basi attenuatis ciliato-serratis, floribus aggregatis subterminalibus nutantibus, disco hypogyno 5-dentato, filamentis pilosis, antheris bisetosis.—*Linn.—Mich. Fl. Am. v.* 1. *p.* 249. *Pursh, Fl. Am. v.* 1.*p.* 283. *Elliott, Carol. v.* 1. *p.* 501. *Bigel. Fl. Bost. ed.* 2. *p.* 164. *Torrey, Fl. of Un. St. v.* 1. *p.* 412.

Hab. Lake Huron. *Dr. Todd.* About Quebec. *Mrs. Percival, Mrs. Sheppard;* and this seems to be its most northern limit.

2. *G. Myrsinites;* humilis, ramis cæspitosis radicantibus, foliis late ovatis ciliato-serratis, floribus solitariis pluri-bracteatis, corolla vix calycem longiori, antheris muticis, filamentis glabris, disco hypogyno nullo. (Tab. CXXIX.)

Caulis brevis, ramosus; *rami* plurimi, cæspitosi, procumbentes, longe radicantes. *Folia* late ovata, coriaceo-membranacea, nitida, venosa, ciliato-serrata. *Flores* minuti, solitarii, axillares. *Pedunculi* perbreves, bracteati, bracteis 4–5 ovatis. *Calyx* basi carnosus, limbo 5-fidus. *Corolla* vix calyce longior, 5-fida, subcampanulata. *Filamenta* pistillo paulo breviora, glabra. *Antheræ* oblongæ vix apice bifidæ, aristis nullis. *Discus* hypogynus nullus. *Ovarium* depresso-globosum, 5-lobum, calycis basi carnosa incrassata insidens. *Stylus* cylindraceus. *Stigma* simplex. *Fructus; capsula* 5-locularis, 5-valvis, calyce ampliato baccato rubro tecta; valvis medio septiferis. *Semina* numerosa, reniformi-angulata, exarillata, nitida, fusca. *Albumen* carnosum. *Embryo* axilis, cylindraceus.

Hab. Rocky Mountains, between lat. 52° and 54°. *Drummond.*—This beautiful little plant is loaded with scarlet berries, which its discoverer describes as "delicious, and resembling the pine-apple in flavour." The anthers differ from those of the other known *Gaultheriæ*, but the rest of the fructification and the habit entirely correspond with the present Genus. I ought to observe that the flower is drawn from the only two blossoms I could find on the whole of the specimens, and that appearing at an unusual season (while the fruit is in perfection) they were probably smaller than usual, scarcely a line in length, and quite concealed among the foliage.

Tab. CXXIX.—*Fig.* 1, Leaf; *fig.* 2, Flower; *fig.* 3, Corolla; *fig.* 4, Stamens and Pistil; *fig.* 5, 5, Back and front view of a stamen; *fig.* 6, Pistil; *fig.* 7, Section of the ovary; *fig.* 8, 8, Fruits; *fig.* 9, Section of a capsule which has burst, surrounded by the fleshy calyx, and seated upon its thickened base (as in *G. procumbens* and *G. hispidula*); *fig.* 10, 10, Seeds; *fig.* 11, Section of a seed:—*magnified.*

3. *G. hispidula;* caule repente filiformi hispido, foliis parvis late ovatis subintegerrimis ciliatis aveniis subtus præcipue hispidis, floribus solitariis 4-fidis, filamentis suborbiculatis pubescentibus, antheræ loculis biaristatis, disco hypogyno nullo.—*Muhl.*—*Torrey, Fl. of Un. St. v.* 1. *p.* 413. *Bigel. Fl. Bost. ed.* 2. *p.* 165.—G. serpyllifolia. *Pursh, Fl. Am. v.* 1. *p.* 283. *t.* 13. (*fig. mala*).—Vaccinium hispidulum. *Mich. Am. v.* 1. *p.* 223. *t.* 23.

Hab. Swamps. Newfoundland. *Dr. Morrison. Miss Brenton.* Throughout Canada, and as far as the banks of the Saskatchawan (*Dr. Richardson*), and thence to the Height of Land on the Rocky Mountains, and to the sources of the Columbia on the West side. *Drummond.*

4. *G. Shallon;* suberecta, foliis subcordato-ovatis acutis serratis coriaceis marginibus ramisque junioribus hispidis, racemis secundis elongatis multifloris bracteatis, pedicello infra medium bibracteato, corollis ovato-globosis viscidis glandulosis, antheræ loculis bisetosis, disco hypogyno nullo.—*Pursh, Fl. Am. v.* 1. *p.* 284. *t.* 12. *Hook. Bot. Mag. t.* 2843. *Lindl. Bot. Reg. t.* 1411.—G. fruticosa. *Menzies,* (*in Herb. nostr.*)

Hab. North-west Coast. *Mr. Menzies. Dr. Scouler.* Common over a vast extent of country, from Cape Mendocina to Puget Sound, but never extending 100 geographical miles from the coast. *Douglas.*—A truly beautiful plant, with the leaves often 4 inches long, and racemes still longer, of a delicate waxy appearance. The fruit is much esteemed by the natives, and made into cakes, which keep for a great length of time. It is now introduced by Mr. Douglas and Dr. Scouler to our gardens, where it is a great acquisition, bearing copious blossoms and abundant fruit.

2. ARBUTUS.

Calyx parvus, 5-partitus. *Corolla* ovata v. globosa limbo 5-dentato reflexo, basi sæpe diaphana. *Stam.* 10 basi corollæ inserta. *Antheræ* loculi apice poro dehiscentes, dorso aristato. *Discus hypogynus* decangularis. *Stigma* obtusum. *Bacca* 5-locularis, polysperma, nunc *Drupa* subglobosa, putamine 5-loculari, loculis monospermis.

* *Bacca polysperma.* Arbutus.

1. *A. laurifolia;* arborea, foliis oblongis utrinque acuminatis acute serratis glabris, racemis axillaribus secundis sessilibus solitariis. *Linn. Suppl. p.* 238. *Pursh, Fl. Am. v.* 1. *p.* 282.

Hab. North America. *Linnæus:* and Pursh suspects on the N. W. Coast, at the Columbia; which is the more probable, as no *true Arbutus* (excluding *Arctostaphylos*) is found on the East side of the Rocky Mountains.

2. *A. Menziesii;* arborea, foliis ovalibus integerrimis vel subserratis coriaceis petiolatis glaberrimis subtus glaucis, racemis elongatis compositis paniculatis densis pubescentibus, baccis rugosis polyspermis.—*Pursh, Fl. Am. v.* 1. *p.* 282. *Hook. et Arn. in Bot. of Beech. Voy. v.* 1. *p.* 143.—A. procera. *Dougl. MSS. in Hort. Soc. Lond.*

Hab. North-west Coast. *Mr. Menzies.* Common at Puget Sound, Columbia River, and N. California, attaining a large size in hilly situations. *Douglas.*—This is so closely allied to *A. Andrachne,* especially to my specimens from southern Tauria, that I have hesitated about keeping it distinct. The leaves are perhaps larger; but the figure of that species in *Bot. Register, t.* 113, admirably represents our plant.

3. *A. tomentosa;* fruticosa erecta, foliis brevi-petiolatis acutis coriaceis ovalibus ovatisve nunc subcordatis integerrimis junioribus pubescenti-tomentosis, racemis compositis brevibus terminalibus congestis folio brevioribus. (Tab. CXXX.)—*α. hispida;* ramis setosis, setis longis

patentibus.—*Pursh, Fl. Am. v.* 1. *p.* 282. *Hook. in Bot. of Beech. Voy. v.* 1. *p.* 144.—Arctostaphylos tomentosa. *Douglas, MSS.*—*β. nuda;* ramorum setis nullis.

Hab. Columbia. *Menzies.* Common on rocky places of the N.W. Coast, from California in the south, to Puget Sound in the north. *Douglas.*—This plant has, perhaps, a considerable geographical range. From Professor Lindley I possess a specimen gathered at Vera Cruz. Not having seen the fruit, I am doubtful whether this species belongs to the present or to the following division of the Genus.

Tab. CXXX.—Arbutus tomentosa.—*Fig.* 1, var. *α.*; *fig.* 2, Flower and bractea; *fig.* 3, Stamen, *magnified; fig.* 4, var. *β.*:—*nat. size.*

** *Drupa putamine* 5-*loculari, loculis monospermis.* Arctostaphylos.

4. *A. alpina;* caule procumbente, foliis obovatis basi attenuatis serratis membranaceis marcescentibus reticulatim rugosis, racemo paucifloro terminali.—*Linn.*—*Engl. Bot. t.* 2030. *Pursh, Fl. Am. v.* 1. *p.* 283. *Rich. in Frankl.* 1*st Journ. ed.* 2. *App. p.* 13.

Hab. Newfoundland. *Mr. Cormack. Dr. Morrison.* Canada. *Pursh.* Throughout the woody country, from lat. 54° to 64°. *Dr. Richardson.* Alpine swamps of the Rocky Mountains. *Drummond.*—Berries black.

5. *A. Uva Ursi;* caule procumbente, foliis obovatis integerrimis coriaceis nitidis sempervirentibus basi attenuatis subtus præcipue reticulatis, racemo terminali foliis breviore.—*Linn.*—*Mich. Am. v.* 1. *p.* 249. *Pursh, Fl. Am. v.* 1. *p.* 283. *Bigel. Fl. Bost. ed.* 2. *p.* 165. *Torrey, Fl. of Un. St. v.* 1. *p.* 411. *Rich. in Frankl.* 1*st Journ. ed.* 2. *App. p.* 13.

Hab. Throughout Canada, and as far as Fort Franklin on the Mackenzie River. *Dr. Richardson.* Common on the North-west Coast. *Douglas. Dr. Scouler.*—On the shores of the Columbia, the leaves are dried at the fire, pounded or bruised by the natives, and mixed with tobacco to render it more mild. It is the *Iss-salth* of the Chenook Indians.

3. ANDROMEDA. *L.*

Cal. 5-partitus, coloratus. *Cor.* campanulata vel urceolata, limbo 5-dentato reflexo. *Stam.* 8–10 basi corollæ inserta. *Antheræ* bicornes, apice poro gemino dehiscentes. *Capsula* 5-locularis, 5-valvis, polysperma, valvis medio septiferis.

* *Foliis sempervirentibus.*

1. *A. hypnoides;* procumbens humilis, foliis laxe imbricatis lineari-subulatis, pedunculis solitariis unifloris terminalibus, corolla campanulata 5-fida obtusa, stylo ovato-acuminato, antheris aristis 2 longissimis.—*Linn.*—*Pursh, Fl. Am. v.* 1. *p.* 291. *Hook. Bot. Mag. t.* 2936.

Hab. North-West Coast. *Nelson, in Herb. Banks.* (*Pursh.*) Labrador. *Dr. Morrison. Kohlmeister.*

2. *A. Stelleriana;* caule filiformi procumbente, foliis 4–6-fariis linearibus patentissimis obtusis supra planis dorso obtuse carinatis, pedunculo brevi terminali subsolitario arcuato, calyce 5-phyllo, corolla lato-campanulata subpentapetala, stylo ovato-acuminato, antheris aristis duabus longissimis. (Tab. CXXXI.)—*Pall. Fl. Ross. v.* 2. *p.* 58. *t.* 74. *f.* 2.—Menziesia Stelleriana. *Fisch. in Herb. nostr.*—Erica Stelleriana. *Willd.*—*Spreng.*

Caulis filiformis, procumbens, inferne radicans; ramis erectiusculis subsimplicibus. *Folia* 4–6-faria,

linearia, integerrima, obtusa, patentissima, plus minus reflexa, supra plana, subtus dorso obtuse canaliculato. *Pedunculus* subsolitarius, terminalis, brevis, curvatus, uniflorus. *Flos* nutans. *Calyx* pentaphyllus, foliolis ovalibus obtusis valde concavis. *Corolla* lato-campanulata, profunde 5-partita, fere 5-petala. *Filamenta* subulata. *Antheræ* didymæ, dorso aristis duabus longissimis deflexis. *Ovarium* globosum, rugosum. *Stylus* basi insigniter incrassatus.

Hab. North-West Coast of America, probably on Banks' Islands. *Mr. Menzies* (in *Herb. nostr.*)—I am indebted for a small but original Pallasian specimen of this beautiful plant to Dr. Fischer, with which this exactly corresponds.

Tab. CXXXI. Andromeda Stelleriana.—*Fig.* 1, Flower; *fig.* 2, Corolla; *fig.* 3, Pistil; *fig.* 4, 5, Anthers; *fig.* 6, 7, Leaves:—*magnified.*

3. *A. lycopodioides;* caule filiformi diffuso vage ramoso, foliis quadrifariis arcte imbricatis appressis ovatis brevibus crassis obtuse carinatis, pedunculis subgeminis axillaribus, corollis campanulatis.—*Pall. Fl. Ross. v.* 2. *p.* 55. *t.* 73. *f.* 1. *Cham. in Linnæa, v.* 1. *p.* 516.

Hab. Unalaschka. *Chamisso.*—At first sight this plant resembles a small state of *A. tetragona*, but it is truly distinct; much slenderer in all its parts, the branches more diffuse and flexuose, the leaves not furrowed on the back, the flowers fewer but larger, and the corolla more campanulate.

4. *A. cupressina;* caule suberecto valde subpinnatim ramoso, foliis quadrifariis arcte imbricatis appressis lato-lanceolatis carinatis, pedunculis solitariis lateralibus.

Hab. Rocky Mountains north of the Smoking River, lat. 46°. *Drummond.*—This partakes of some of the characters of the preceding and following species, yet is quite distinct from both; it has nearly the same firm and stout habit as *A. tetragona*, and is about of the same size; but, like *A. lycopodioides*, it wants the dorsal sulcus. Its leaves are longer and narrower than either, and distinctly, and often rather sharply carinated. It is probably a rare, and exclusively an alpine species; very few specimens are in the Collection, and those mostly in fruit. *Capsule* bearing the dissepiment in the middle of the valves, as is probably the case with all the quadrifariously-leaved species, hence they are true *Andromedæ*, not *Menziesiæ*, whither Dr. Fischer is disposed to refer them. The beautiful *A. ericoides*, which I have received from Dr. Fischer and Chamisso, and *A. Redowskii*, which I possess from Professor Lehmann, seem to be exclusively Siberian plants, and not to have been found on the opposite or American side of Behring's Straits.

5. *A. tetragona;* caule suberecto fere pinnatim ramoso, foliis quadrifariis arcte imbricatis appressis ovato-lanceolatis subtriquetris sulco dorsali, pedunculis solitariis axillaribus sparsis, corollis ovato-campanulatis.—*Linn.*—*Pursh, Fl. Am. v.* 1. *p.* 290. *Hook. Bot. Mag. t.* 3181.

Hab. From lat. 54° to the Arctic Islands (*Dr. Richardson, Captain Sir E. Parry, &c.*) and from Labrador on the east (*Kohlmeister, Dr. Morrison*), to the Rocky Mountains, both on the east and on the west side (*Douglas*). Unalaschka. *Chamisso.*—Its southern limit is perhaps lat. 44°, where *Mr. Douglas* finds it on Mount Hood of the Columbia River.

6. *A. polifolia;* foliis lineari-lanceolatis subtus glaucescenti-albidis, pedunculis aggregatis unifloris terminalibus.—*Linn.*—*Mich. Am. v.* 1. *p.* 254. *Engl. Bot. t.* 713. *Pursh, Fl. Am. v.* 1. *p.* 291. *Bigel. Fl. Bost. ed.* 2. *p.* 167. *Torrey, Fl. of Un. St. v.* 1. *p.* 419. *Rich. in Frankl.* 1*st Journ. ed.* 2. *App. p.* 13.

Hab. From Lake Huron (*Dr. Todd*) to the Arctic sea-shore. *Dr. Richardson.* Newfoundland. *Dr. Morrison.* Labrador. *Pursh. Kohlmeister.*—The more northern specimens are smaller, and have much narrower leaves.

7. *A. calyculata;* foliis oblongo-ellipticis obtusis serrulatis squamuloso-furfuraceis subtusque præcipue ferrugineis, racemis terminalibus foliosis secundis, pedicellis bracteatis, corollis ovato-cylindraceis.—*Linn.*—*Mich. Am. v.* 1. *p.* 254. *Pall. Fl. Ross. v.* 2. *p.* 33. *t.* 71. *f.* 1. *Elliott, Carol. v.* 1. *p.* 485. *Torrey, Fl. of Un. St. v.* 1. *p.* 419. *Bigel. Fl. Bost. ed.* 2. *p.* 166. *Rich. in Frankl.* 1*st Journ. ed.* 2. *App. p.* 13.

Hab. From Lake Huron (*Dr. Todd*), throughout the woody, and part of the barren country. *Dr. Richardson. Drummond.* Newfoundland. *Miss Brenton.*

** *Foliis deciduis.*

8. *A. racemosa;* foliis elliptico-lanceolatis membranaceis serrulatis glabris, spicis terminalibus secundis simplicibus v. ramosis, bracteis lineari-lanceolatis, calycibus acutis, corollis cylindraceis, antheris aristis quatuor.—*Mich. Am. v.* 1. *p.* 255. *Pursh, Fl. Am. v.* 1. *p.* 294. *Elliott, Carol. v.* 1. *p.* 492. *Bigel. Fl. Bost. ed.* 2. *p.* 167. *Torrey, Fl. of Un. St. v.* 1. *p.* 420. —A. paniculata. *Linn.*

Hab. Canada. *Pursh.*—The flowers are said to be very fragrant.

9. *A. ligustrina;* pubescens, foliis obovato-lanceolatis acutis integerrimis, ramis floriferis terminalibus paniculatis subaphyllis, floribus secundis, corollis subglobosis pubescentibus, antheris muticis.—*Muhl.*—*Elliott, Carol. v.* 1. *p.* 490. *Torrey, Fl. of Un. St. v.* 1. *p.* 421. —Vaccinium ligustrinum. *Linn.*—Andromeda paniculata. *Willd.*—*Mich. Am. v.* 1. *p.* 254. *Pursh, Fl. Am. v.* 1. *p.* 295.—Lyonia paniculata. *Nutt.*

Hab. Canada. *Pursh.* Saskatchawan. *Drummond.*—The Genus *Lyonia* is distinguished by Mr. Nuttall from *Andromeda* by the 5 valves of the capsule being closed by 5 other, and marginal narrow ones. But these narrow marginal ones appear to be only a parenchymatous substance filling up the spaces formed by the introflexion of the true valves, and generally falling away when the capsules have burst; but not unfrequently remaining attached to one or other of the valves. Dr. Torrey informs us that Mr. Nuttall himself now hardly considers the Genus tenable.

4. MENZIESIA. *Sm.*

Cal. 4–5-partitus seu 5-phyllus. *Cor.* monopetala urceolata v. campanulata, limbo 4–5-dentato. *Stam.* 8–10, basi corollæ inserta. *Antheræ* muticæ, apice poro gemino dehiscentes. *Capsula* 4–5-locularis, 4–5-valvis, polysperma, dissepimentis e marginibus introflexis valvarum.

* *Foliis persistentibus.*

1. *M. cærulea;* decandra, foliis linearibus obtusis denticulatis, floribus (3–6) fructibusque longe pedunculatis, calycibus acuminatis, corollis ovoideis subpubescentibus (roseis), stigmate incrassato capitato incluso.—*Sw.*—*Engl. Bot. t.* 2469. *Pursh, Fl. Am. v.* 1. *p.* 265. *Cham. in Linnæa, v.* 1. *p.* 515. *Bigel. Fl. Bost. ed.* 2. *p.* 149. *Torrey, Fl. of Un. St. v.* 1. *p.* 394. —Andromeda cærulea. *Linn.*—A. taxifolia. *Pall. Fl. Ross. v.* 2. *p.* 64. *t.* 72. *f.* 2.

Hab. Labrador. *Sir Jos. Banks. Kohlmeister. Dr. Morrison.*—It is not certain that this is found any where in North America, except Labrador. In the alpine interior its place is taken by other allied and equally beautiful species. On the N.W. Coast, Chamisso only detected *M. Alcutica*, which is, perhaps, the one seen by *Steller*, whom Pallas mentions as having found *M. cærulea* "on the islands and continent of America, opposite Kamtsckatka."

2. *M. Aleutica;* foliis linearibus obtusis denticulatis ciliatis, floribus (10–15) breviter fructibus longe pedunculatis, calycibus acuminatis, corollis (ochroleucis) glabris subglobosis, stigmate cum stylo clavæformi æquali.—*Cham. in Linnæa, v.* 1. *p.* 515.—M. phylicifolia. *Fisch. in Herb. nostr.*

Hab. Unalaschka. *Chamisso.*

3. *M. glanduliflora;* decandra, foliis linearibus obtusis obsolete glandulosis glanduloso-serrulatisque, floribus (4–6) longiusculi-pedunculatis, pedunculo calycibus acuminatis corollisque globoso-conicis (flavis) glanduloso-pubescentibus, stylo incluso. (Tab. CXXXII.)

Hab. Rare in the Alpine woods and mountains north of the Smoking River, lat. 56°. *Drummond.*—A very beautiful and distinct species, 6–7 inches high, with each one of its copious and subfasciculated branches bearing 5–6 gracefully drooping yellow flowers, clothed, as well as the peduncles, with a rather thick glandular down.

Tab. CXXXII.—*Fig.* 1, Flower; *fig.* 2, Corolla; *fig.* 3, Calyx and pistil; *fig.* 4, 4, Stamens; *fig.* 5, Upper, and *fig.* 6, Under side of a leaf:—*magnified.*

4. *M. empetriformis;* decandra, foliis linearibus obtusis glanduloso-denticulatis subtus canaliculatis, floribus (10–12) longe pedunculatis, calycibus glabris obtusis, corollis campanulatis (roseis) glabris, stylo incluso.—*Sm. in Linn. Trans. v.* 10. *p.* 380. *Pursh, Fl. Am. v.* 1. *p.* 252.

Hab. Nutka on the N. W. Coast of America. *Mr. Menzies.* Pursh gives the Rocky Mountains, and near the mouth of the Columbia River, as other stations, upon the authority of *M. Lewis.*

5. *M. Grahamii;* decandra, foliis linearibus obtusis obsolete glanduloso-denticulatis, floribus (10–12) longiusculi pedunculatis, calycibus obtusis, corollis brevi-campanulatis (roseis) glabris, stylo filiformi exserto.—M. empetriformis. *Grah. in Bot. Mag. t.* 3176. (nec *Sm.*)

Hab. Alpine woods and open elevated situations of the Rocky Mountains, lat. 55°. *Drummond.*—On comparing the specimens of this plant with the original *M. empetriformis* from *Mr. Menzies*, I cannot but think them truly distinct. The latter is a much stouter and taller plant, the branches clothed with a smooth white shining bark, the leaves are flatter and thinner towards the edges, the margins distinctly toothed, and so curved back as to form a dorsal groove ("concave beneath," *Sm.*), the flowers are longer, and the style is included.

6. *M. intermedia;* decandra, foliis linearibus obtusis obscure glanduloso-serratis, floribus (4–7) sublonge pedunculatis, calycibus acuminatis basi subglandulosis, corollis (pallide roseis) cylindraceo-campanulatis glabris, stylo incluso.

Hab. Woods and open places in the Rocky Mountains. *Drummond.*—The longer and less expanded corolla, included style, and acuminated calycine segments, distinguish this from *M. Grahamii*, as do the campanulate corolla, nearly entire leaves, and smaller size of the whole plant, from *M. cærulea.*

* * *Foliis deciduis.*

7. *M. ferruginea;* octandra, foliis oblongo-lanceolatis utrinque acutis apice glandula apiculata ciliato-serratis supra pilis longis appressis strigosis subtus pallidis glabriusculis ad costam paleaceis paleis subulatis, pedunculis glanduloso-pilosis, calyce 4-lobo lobis rotundatis fimbriato-glandulosis, corolla ovato-cylindracea.—*Sm. Plant. Ic. t.* 56.

Hab. North-West Coast. *Mr. Menzies.* Mouth of the Columbia. *Douglas. Dr. Scouler.*

8. *M. globularis;* octandra, foliis obovatis obtusis glandula mucronatis basi attenuatis minute ciliato-serratis supra subpubescentibus subtus glaucescentibus glabris costæ paleis subulatis minutis, pedunculis glandulosis, calyce 4-lobo fimbriato glanduloso, corolla globoso-campanulata.—" *Salisb. Parad. Lond. t.* 44." *Pursh, Fl. Am. v.* 1. *p.* 264. *Torrey, Fl. of Un. St. v.* 1. *p.* 395.—M. Smithii. *Mich. Am. v.* 1. *p.* 235.—M. ferruginea, *β. Sims, Bot. Mag. t.* 1571.

Hab. Alpine woods north of the Smoking River, in lat. 56°. *Drummond.*—This plant, which does not appear to be known to any of the living American Botanists, seems nevertheless to have an extensive range, being found in Pennsylvania by Muhlenberg, according to Pursh, and on the high mountains of Virginia and Carolina by Michaux, according to Pursh and Dr. Sims, for Michaux's Flora gives no station. It has been cultivated in the English Gardens, and the Botanical Magazine exhibits an excellent representation of our plant. The constantly obovate, more membranaceous leaves, glaucous beneath, the comparatively obsolete glands and hairs, and the different shape of the corolla, will surely abundantly distinguish this species from the true *M. ferruginea*, which is, besides, exclusively a native of the shores of the Pacific. The latter becomes almost black when dry; the former remains of a delicate green.

5. KALMIA. *L.*

Cal. 5-partitus, persistens. *Cor.* rotato-campanulata, limbo 5-fido patente. *Foveolæ* 5 sub limbo, antheras biporosas recipientes, extus totidem tuberculis prominulæ. *Stam.* basi corollæ inserta. *Antheræ* muticæ. *Caps.* 5-locularis, 5-valvis: *dissepimenta* e marginibus introflexis valvarum.

1. *K. latifolia;* foliis petiolatis alternis ternatisque coriaceis ovali-lanceolatis acutis utrinque viridibus, corymbis terminalibus pubescenti-glaucis viscidis.—*Linn.—Mich. Am. v.* 1. *p.* 258. *Curt. Bot. Mag. t.* 175. *Pursh, Fl. Am. v.* 1. *p.* 296. *Bigel. Fl. Bost. ed.* 2. *p.* 169. *Elliott, Carol. v.* 1. *p.* 431. *Torrey, Fl. of Un. St. v.* 1. *p.* 422.

Hab. Canada. *Pursh.*

2. *K. angustifolia;* foliis petiolatis ternatis oblongo-ellipticis obtusis coriaceis subtus subferrugineis, corymbis lateralibus terminalibusque, pedunculis calycibusque pubescenti-glandulosis. *Linn.—Mich. Am. v.* 1. *p.* 257. *Curt. Bot. Mag. t.* 331. *Pursh, Fl. Am. v.* 1. *p.* 296. *Bigel. Fl. Bost. ed.* 2. *p.* 170.

Hab. Throughout Canada, to Hudson's Bay. *Michaux. Mrs. Percival.* Newfoundland. *Mr. Cormack. Miss Brenton.*

3. *K. glauca;* ramis ancipitibus, foliis oppositis subsessilibus oblongis coriaceis glaberrimis marginibus revolutis subtus glaucis, corymbis terminalibus, pedunculis calycibusque glaberrimis.—*Ait. Hort. Kew. ed.* 1. *p.* 64. *t.* 8. *Mich. Am. v.* 1. *p.* 257. *Curt. Bot. Mag. p.* 177. *Pursh, Fl. Am. v.* 1. *p.* 296. *Bigel. Fl. Bost. ed.* 2. *p.* 170. *Torrey, Fl. of Un. St. v.* 1. *p.* 423.—*β. rosmarinifolia;* foliis linearibus marginibus magis revolutis subtus vix glaucis. *Ph.*—*γ. microphylla;* foliis vix semipollicaribus subovalibus.

Hab. *α.* and *β.* throughout Canada, from Lake Huron, extending beyond the woody regions, but scarcely, I believe, to the Arctic Circle. Newfoundland. *Mr. Cormack. Dr. Morrison. Miss Brenton.* On low swampy grounds of the Columbia, near the Pacific, rare. *Douglas.*—*γ.* Swamps in the Rocky Mountains. *Drummond.*

6. EPIGÆA. *L.*

Cal. 5-partitus, bracteis tribus suffultus. *Cor.* hypocrateriformis, tubo intus hirsuto, limbo patente quinquefido. *Stam.* basi corollæ inserta. *Antheræ* rimis geminis longitudine dehiscentes. *Stigma* sublobatum. *Caps.* 5-locularis, 5-valvis, polysperma; valvarum marginibus introflexis *dissepimenta* formantibus.

1. *E. repens;* ramis petiolis nervoque hirsutissimis, foliis cordato-ovatis integerrimis, corollis cylindricis.—*Linn.*—*Mich. Am. v.* 1. *p.* 250. *Pursh, Fl. Am. v.* 1. *p.* 297. *Elliott, Carol. v.* 1. *p.* 501. *Bigel. Fl. Bost. ed.* 2. *p.* 164. *Torrey, Fl. of Un. St. v.* 1. *p.* 428.

Hab. Newfoundland. *Mr. Cormack. Dr. Morrison.* Throughout Canada, (*Michaux, Mrs. Percival, Mr. Sheppard,*) and as far as the Saskatchawan. *Drummond.*

7. RHODORA. *L.*

Cal. 5-dentatus, persistens. *Cor.* calyci adnata, ringens, subdipetala; petalo superiore profunde bi-tripartito, inferiore latiore bilobo. *Stam.* declinata; filamenta inæqualia. *Antheræ* biporosæ. *Caps.* 5-locularis, 5-valvis, loculis polyspermis; dissepimentis e marginibus introflexis valvarum.

1. *R. Canadensis.*—*Linn.*—*Mich. Am. v.* 1. *p.* 259. *Curt. Bot. Mag. t.* 744. *Pursh, Fl. Am. v.* 1. *p.* 298.

Hab. Canada, near Sorel. *Michaux.* About Quebec. *Mrs. Percival. Mrs. Sheppard. Lady Dalhousie.* Newfoundland. *Mr. Cormack.*

8. RHODODENDRON. *Don. Torrey.*

Cal. profunde 5-partitus, persistens. *Cor.* infundibuliformi-campanulata, rarius rotata, limbo 5-lobo patente lobis nunc subinæqualibus. *Stam.* 5-10, hypogyna, sæpe declinata. *Antheræ* apice biporosæ. *Stigma* capitatum. *Capsula* 5-locularis, 5-valvis; dissepimentis e marginibus introflexis valvarum. *Semina* arillata.

* *Floribus pentandris* (*foliis deciduis.*)

1. *R. nudiflorum;* subnudiflorum, foliis lanceolato-oblongis utrinque glabriusculis concoloribus nervo supra lanuginoso subtus setigero margine ciliatis, floribus amplis non viscosis, tubo laciniis longiore, calycis dentibus brevibus ovali-subrotundis, staminibus longissime exsertis. *Ph.*—*Torrey, Fl. of Un. St. v.* 1. *p.* 424.—Azalea nudiflora. *Linn.*—*Curt. Bot. Mag. t.* 180. *Elliott, Carol. v.* 1. *p.* 240. *Bigel. Fl. Bost. ed.* 2. *p.* 82.—A. periclymenoides. *Mich. Am. v.* 1. *p.* 151. *Pursh, Fl. Am. v.* 1. *p.* 153.

Hab. Canada. *Pursh.*

2. *R. viscosum;* foliosiflorum, ramis hispidis, foliis oblongo-obovatis acutis utrinque glabris concoloribus nervo setigero margine ciliatis, floribus viscosis, tubo laciniis duplo longiore, calycis dentibus brevissimis rotundatis, filamentis corollæ vix longioribus. *Ph.*—*Torrey, Fl. of Un. St. v.* 1. *p.* 424.—Azalea viscosa. *Linn.*—*Mich. Am. v.* 1. *p.* 150. *Pursh, Fl. Am. v.* 1. *p.* 153. *Elliott, Carol. v.* 1. *p.* 241. *Bigel. Fl. Bost. ed.* 2. *p.* 82.

Hab. Canada. *Pursh.*

* * *Floribus plerumque decandris.*

3. *R. maximum;* foliis oblongis acutis subtus discoloribus, umbellis terminalibus, calycis laciniis ovalibus obtusis, corollis campanulatis. *Ph.—Linn.—Bot Mag. t.* 951. *Mich. Am. v.* 1. *p.* 259. *Pursh, Fl. Am. v.* 1. *p.* 297. *Elliott, Carol. v.* 1. *p.* 433. *Bigel. Fl. Bost. ed.* 2. *p.* 168. *Torrey, Fl. of Un. St. v.* 1. *p.* 426?

Hab. Canada. *Pursh.* N.W. Coast. *Mr. Menzies. Douglas.*—Specimens without flower, with leaves a span long, and probably belonging to this species, were gathered by Mr. Douglas on the summit of the high mountains of the Grand Rapids, and on those forming the subalpine region of Mount Hood, but rarely.

4. *R. Lapponicum;* humile, procumbens, ramis divaricatis, foliis persistentibus ellipticis obtusis rigidis foveolato-punctatis subtus discoloribus lepidotis marginibus reflexis, floribus umbellatis 5–8-andris, corollis rotato-infundibuliformibus.—*Wahl. Lapp. p.* 104. *Torrey, Fl. of Un. St. v.* 1. *p.* 426. *Hook. Bot. Mag. t.* 3106.—Azalea Lapponica. *Linn. Fl. Lapp. p.* 89. *t.* 6. *f.* 1. *Pall. Fl. Ross. v.* 2. *p.* 52. *t.* 70. *f.* 1.

Hab. Norton Sound. *Nelson.* Barren grounds from lat. 65° to the Arctic sea-shore, *Dr. Richardson,* and Islands, *Capt. Sir E. Parry.* Summits of the Rocky Mountains, north of the Smoking River, lat. 56°. *Drummond.* Labrador. *Dr. Morrison.*—This has been detected on the White Mountains of New Hampshire, United States, by Dr. Bigelow, and Dr. Boott, from whom, as well as from Mr. Greene, who gathered it in the same locality, I have fine specimens.

5. *R. Kamtschaticum;* humile, procumbens, foliis persistentibus obovatis ciliatis venosis nitidis, calycibus amplis foliaceis, corollis rotatis, staminibus longioribus.—*Pall. Fl. Ross. v.* 1. *p.* 48. *t.* 33. *Cham. in Linnæa, v.* 1. *p.* 513.

Hab. Unalaschka. *Chamisso.* Banks' Island and Port Edgecombe, N.W. Coast. lat. 53°. *Mr. Menzies,* (in *Herb. nostr.*)

6. *R. albiflorum;* erectum, foliis deciduis elliptico-lanceolatis integerrimis membranaceis glabris in apicibus ramorum pedunculisque fasciculatis, calycibus subfoliaceis hispidis, corollis (albis) rotato-campanulatis, staminibus 10 erectis æqualibus. (Tab. CXXXIII.)

Frutex 2–3-pedalis, erectus, ramosus, cortice fusco glabro tectus. *Folia* in apicibus ramorum fasciculata, decidua, membranacea, elliptico-lanceolata, glabra, brevissime petiolata, stipulata; stipulis ovatis, membranaceis, concavis, deciduis. *Pedunculi* fasciculati, laterales et terminales, unciam longi, appresso-setosi, uniflori. *Calyx* persistens, tubum corollæ æquans, 5-partitus, appresse setosus, lobis oblongo-lanceolatis subfoliaceis. *Stamina* 10, æqualia, erectiuscula. *Filamenta* subulata, inferne hirsuta. *Ovarium* 5-lobum. *Stylus* hirsutus. *Stigma* 5-lobum. *Capsula* coriacea, hirsuta. *Semina* scrobiculata.

Hab. Alpine woods of the Rocky Mountains. *Drummond.*—A very beautiful and most distinct species, which would be a great ornament to our gardens if it could be introduced.

Tab. CXXXIII. Rhododendron albiflorum.—A. Flowering specimen, *nat. size*; *fig.* 1, Flower; *fig.* 2, Calyx, stamen, and pistil; *fig.* 3, 4, Anthers; *fig.* 5, Section of the ovary; *fig.* 6, Stigma, *magnified.*—B. Portion of a fruit-bearing branch, with gemmiferous scales, whence the leaves of the following year arise; *fig.* 7, Capsule, with its persistent calyx; *fig.* 8, Capsule, bursting; *fig.* 9, 9, Seeds, covered with the arillus; *fig.* 10, Seed deprived of the arillus; *fig.* 11, Embryo;—*magnified.*

9. AZALEA. *Don. Hook.* (Azaleæ Sp. *L.*)

Cal. 5-partitus. *Corolla* brevi-campanulata, regularis. *Stam.* 5, basi corollæ inserta. recta, æqualia. *Antheræ* rima longitudinali dehiscentes. *Caps.* 2–3-valvis, 2–3-locularis; dissepimentis e marginibus introflexis valvarum.—Frutex *humilis, procumbens, ramosissimus; foliis persistentibus parvis coriaceis nitidis.* Flores *parvi, racemosi, terminales, rosei.*

1. *A. procumbens.—Linn.—Pursh, Fl. Am. v.* 1. *p.* 154. *Engl. Bot. t.* 865. *Bigel. Fl. Bost. ed.* 2. *App. p.* 82. *Torrey, Fl. of Un. St. v.* 1. *p.* 232.

Hab. Barren grounds from lat. 65° to the Arctic Islands. *Dr. Richardson. Captain Sir E. Parry, &c.* Newfoundland and Labrador. *Dr. Morrison.* Banks' Islands and Mount Edgecombe, lat. 54°. N.W. Coast. *Mr. Menzies.*—This has been found on the White Mountains of New Hampshire by Drs. Bigelow and Boott, and by Mr. Greene.

10. LEDUM. *L.*

Cal. 5-dentatus persistens. *Pet.* 5, patentia. *Stam.* 10, receptaculo inserta. *Filamenta* capillaria æqualia, recta. *Stigma* 5-lobum. *Capsula* 5-locularis, 5-valvis, valvis e basi sursum dehiscentibus. *Semina* numerosa scrobiculata.

1. *L. palustre;* foliis oblongis linearibusve margine revolutis subtus ramisque junioribus ferrugineo-tomentosis, stamina 5–10 corolla longioribus. *Mich.—α. angustifolium*, foliis linearibus, floribus decandris.—L. palustre. *Linn.—Pursh, Fl. Am. v.* 1. *p.* 30. *Hook. in Fl. Lond. 2d Ser. t.* 210.—*β. latifolium*; foliis oblongis staminibus non raro 5.—L. latifolium. *Ait.—Jacq. Ic. Rar. v.* 3. *p.* 464. *Pursh, Fl. Am. v.* 1. *p.* 300. *Bigel. Fl. Bost. ed.* 2. *p.* 172. *Torrey, Fl. of Un. St. v. p.* 437.

Hab. Chiefly in the more northern and barren regions. *Dr. Richardson.* Newfoundland. *Miss Brenton. Mr. Cormack.* Labrador. *Dr. Morrison. Kohlmeister.* Hudson's Bay (*Dr. Richardson*) to the Arctic seashore and Islands (*Dr. Richardson, Captain Sir. E. Parry, &c.*); often, however, mixed with specimens which cannot be distinguished from β. Cape Newenham. N. W. Coast, lat. 59°. *Mr. Menzies.* Rocky Mountains. *Drummond.* Fort Vancouver on the Columbia. *Dr. Scouler.* Chamisso's Island in Behring's Straits. *Chamisso.*—Much used as a substitute for tea: the narrow-leaved var. is said by Dr. Richardson to be preferred.

Ord. LV. MONOTROPEÆ. *Nutt.*

1. TOLMIEA. (*nov. Gen.*)

Calyx profunde 5-partitus, laciniis longis linearibus demum foliaceis persistentibus. *Cor.* 5-petala, petalis obovatis patentibus deciduis. *Stam.* 10 hypogyna. *Antheræ* basi insertæ, biloculares, longitudinaliter dehiscentes, fissura superne latiore. *Ovarium* globosum liberum. *Stylus* elongatus, (siccitate) spiraliter tortus. *Stigma* dilatato-capitatum. *Capsula* 5-loba, 5-locularis, loculis medio longitudinaliter dehiscentibus. *Receptacula* axilia. *Semina* numerosa, scrobiculata.—Frutex *glaber, ramis lignosis cortice laxo deciduo obtectis.* Folia

sparsa decidua, in ramos articulata, lanceolata, mucronata, omnino sessilia, oblique obscure venosa. Pedunculi *axillares, solitarii? uniflori, folio breviores, bracteati; bracteis linearibus.*

1. *T. occidentalis.*

Hab. North-West Coast of America. *Mr. Menzies.*—Much as the flowers of this interesting plant accord in general structure with *Pyrola*, I can by no means consent to its forming a species of that Genus. The habit is totally different, and more like that of a *Kalmia* than a *Pyrola*. I have seen no other specimens in my Herbarium, except those (not very perfect ones) from Mr. Menzies. I have named the Genus in honour of *Mr. Tolmie*, one of my most zealous Botanical pupils, and now resident, as Surgeon in the Hudson's Bay Company's Service, in Puget Sound, N.W. America, where, it is to be hoped, he will rediscover this plant. and enable us more fully to illustrate its history.

2. PYROLA. *L.*

Cal. 5-fidus, seu 5-partitus. *Pet.* 5 decidua, erecta v. patenta. *Stam.* 10. *Antheræ* apice insertæ, pendulæ, apice subbicornes poris duobus superne dehiscentibus. *Ovarium* subglobosum 5-lobum. *Stylus* rectus vel curvatus. *Stigma* 5-lobum, nunc annulatum. *Capsula* 5-locularis, loculis medio longitudinaliter dehiscentibus. *Receptacula* axilia. *Semina* numerosa, scrobiculata.—Herbæ *vix suffrutescentes, humiles.* Folia *sempervirentia, subrotunda, rarius oblonga, longe petiolata, integerrima vel dentata.* Scapus *nudus vel squamosus, simplex.* Flores *racemosi rarius uniflori, albi, lutescentes vel rubicundi.*

* *Stylus rectus. Stamina erecta.*

1. *P. uniflora;* caule unifloro, foliis orbicularibus serratis, stigmate magno lobis 5 erectis. —*Linn.—Engl. Bot. t.* 146. *Mich. Am. v.* 1. *p.* 251. *Pursh, Fl. Am. v.* 1. *p.* 299. *Bigel. Fl. Bost. ed.* 2. *p.* 173. *Torrey, Fl. of Un. St. v.* 1. *p.* 454. *Rich. in Frankl.* 1*st Journ. ed.* 2. *App. p.* 18.

Hab. From Lake Huron (*Dr. Todd*) throughout Canada to lat. 64° (*Dr. Richardson*), and from Newfoundland (*Mr. Cormack, Dr. Morrison, Miss Brenton*), and Labrador, (*Kohlmeister, Dr. Morrison*) to the woody country in the Rocky Mountains. Observatory Inlet (*Dr. Scouler*), and near Mount St. Helens on the West Coast, in shady woods, but not nearly so common as on the east side of the Rocky Mountains. (*Douglas.*)

2. *P. minor;* foliis ovato-rotundatis crenatis, floribus racemosis styli inclusi longitudine, stigmate dilatato lobis 5 radiatis.—*Linn.—Engl. Bot. t.* 158, *et t.* 2543 (P. rosea.) *Pursh, Fl. Am. v.* 1. *p.* 299. *Torrey, Fl. of Un. St. v.* 1. *p.* 434.

Hab. Canada. *Mrs. Percival.* Woods in the Rocky Mountains. *Drummond.* Barren country from lat. 64° to the Arctic Coast (*Dr. Richardson*) and Islands (*Captain Ross*). Labrador. *Dr. Morrison.* Observatory Inlet, N. W. Coast. *Dr. Scouler.* Unalaschka. *Chamisso.*—The American plant exactly accords with the European. Petals rounded, concave, not spreading.

3. *P. secunda;* foliis ovatis acutis, floribus racemosis omnibus secundis, stylo exserto, stigmate dilatato 5-lobo.—*Linn.—Engl. Bot. t.* 307. *Mich. Am. v.* 1. *p.* 250. *Pursh, Fl. Am. v.* 1. *p.* 299. *Bigel. Fl. Bost. ed.* 2. *p.* 174. *Torrey, Fl. of Un. St. v.* 1. *p.* 434. *Rich. in Frankl.* 1*st. Journ. ed.* 2. *App. p.* 18.—*β.* foliis angustioribus acuminatis.

Hab. Throughout Canada to the Mackenzie River (*Dr. Richardson*), and from Newfoundland (*Mr. Cor-*

mack, Miss Brenton), and Labrador (*Dr. Morrison*), to the Height of Land on the Rocky Mountains (*Drummond*), and the shores of the Pacific, at the mouth of the Columbia (*Douglas*), and Observatory Inlet (*Dr. Scouler.*) Bay of Eschscholtz. *Chamisso.*—β. Woods of Portage River, near La Grande Côte. *Drummond.*

** *Stylus declinatus. Stamina adscendentia.*

1. *P. chlorantha;* foliis (parvis) rotundatis subintegerrimis petiolo brevioribus opacis subtus præcipue venosis, racemo paucifloro, calycis (parvi) laciniis ovatis, antheris poris tubulosis, stylo decurvo subflexuoso exserto annulato, disco laciniis 5 erectis. (Tab. CXXXIV.) —*Sw. Kongl. Acad. Handl. p.* 190. *t.* 5. *Nutt. Gen. Am. v.* 1. *p.* 273. *Rich in Frankl.* 1*st Journ. ed.* 2. *App. p.* 13. (*excl. syn.* P. asarifoliæ *Mich.*) *Don. in Wern. Trans. v.* 5. *p.* 232.—P. convoluta. *Banks.* (fide *Don.*)—P. asarifolia. *Torrey, Fl. of Un. St. v.* 1. *p.* 433. (*excl. syn. Mich. Pursh et Gold.*)

Radix subrepens, gracilis. *Folia* radicalia aut subradicalia, orbicularia, rarius elliptica, petiolo duplo breviora, coriacea, opaca, integerrima vel obscure crenata, vix $\frac{3}{4}$ unciam longa, supra obscure venosa, subtus venis reticulatis magis conspicuis. *Scapus* spithamæus, nudus vel squama parva solitaria instructus. *Racemus* 5-6-florus. *Flores* undique versi majusculi. *Calyx* parvus. *Petala* subpatentia elliptica. *Antheræ* poris tubulosis. *Stylus* declinatus subflexuosus.

Hab. Lake Winipeg (*Douglas*) to the Saskatchawan and the Rocky Mountains, thence to Bear Lake. *Drummond. Dr. Richardson.* Newfoundland. *Miss Brenton.* Labrador. *Dr. Morrison.*—This is most allied to *P. rotundifolia;* but the leaves are smaller than their smallest state in that species, and singularly opaque. The flowers are nearly the same in size, but the calyx is much smaller and more appressed; the anthers have two tubular horns, at the top of which the pores are situated. The style is shorter and less flexuose. It agrees in every respect with an original specimen from Swartz, and in America seems to be peculiarly abundant in the latitude of the Saskatchawan, from Hudson's Bay to the Mountains. The *P. chlorantha* of Hook. in Parry's 3d Voy. App., should be referred to *P. rotundifolia* δ. *pumila.*

Tab. CXXXIV.—*Fig.* 1. Flower; *fig.* 2, Stamen: *fig.* 3, Back view of an Anther; *fig.* 4, Pistil:—*magnified.*

3. *P. rotundifolia;* foliis subrotundis coriaceis nitidis reticulatis petiolis brevioribus, scapo bracteato, racemo plurifloro, calycis foliolis elongatis membranaceis, antheræ poris non tubulosis, stylo decurvo flexuoso exserto, stigmate annulato, disco laciniis 5 erecto.—*Linn.*—*Engl. Bot. t.* 213. *Mich. Am. v.* 1. *p.* 251? *Pursh, Fl. Am. v.* 1. *p.* 299. *Bigel. Fl. Bost. ed.* 2. *p.* 173. *Torrey, Fl. of Un. St. v.* 1. *p.* 432.—β. *asarifolia;* foliis majoribus reniformi-rotundatis.—P. asarifolia. *Mich. Am. v.* 1. *p.* 251. *Pursh, Fl. Am. v.* 1. *p.* 299. *Goldie in Ed. Phil. Journ. v.* 6. *p.* 226. *Don, in Wern. Trans. v.* 5. *p.* 230.—γ. floribus purpureo-roseis.—P. incarnata. *Fisch. MSS. in Herb. nostr.*—δ. *pumila;* minor, stylo breviore minus flexuoso.—P. pumila. *Horn. in Linnæa, v.* 1. *p.* 514.—P. Grœnlandica. *Horn. Fl. Dan. t.* 1817.

Hab. α. β. γ. (which all appear to grow in the same situations) from Lake Huron (*Dr. Todd*) throughout Canada to Bear Lake (*Dr. Richardson*), and from Hudson's Bay to the Rocky Mountains. *Drummond.* North-West Coast. *Douglas.* Unalaschka and Kotzebue's Sound. *Chamisso.*—δ. Labrador. *Dr. Morrison.* Arctic Islands. *Capt. Sir E. Parry.*—Very numerous specimens of this plant in my Herbarium have satisfied me that, in regard to foliage, this is a very variable species, and that none of them can with propriety be

separated from *P. rotundifolia;* whilst some have their leaves less than an inch in length, others are more than 2½ inches long, and full 3 inches broad. The flowers are the same shape in all, and essentially distinguished from *P. chlorantha* by the much larger and more membranaceous calyx, by the anthers destitute of tubular pores, and the longer and more flexuose style. Sometimes the flowers are white, at other times deep rose-colour, with the anthers quite red. There cannot be a question, I think, but the broader and reniform-leaved variety is the true *P. asarifolia* of Michaux, though some of the American Botanists have taken the *P. chlorantha* for it, which could hardly have suggested Michaux's name.

6. *P. occidentalis;* foliis subrotundis membranaceis obsolete denticulatis petiolo simplici duplo longioribus, racemo paucifloro, laciniis calycinis oblongis obtusis, stigmatis disco 5-lobo. *Don, in Wern. Trans.—Brown, MSS. in Herb. Banks.*

Hab. Sledge Island, on the N. W. Coast. *Nelson.*—With this I am unacquainted, unless, as I cannot help suspecting, it may be my var. *pumila* of *P. rotundifolia*, with which it sufficiently accords, and which is found in Unalaschka. Mr. Don says it resembles *P. minor* in general habit, but is much smaller, and possesses characters widely different.

7. *P. bracteata;* foliis lato-ovatis acutis integerrimis seu lævissime crenatis coriaceis acutis nitidis, scapo subbisquamoso, racemo bracteato, bracteis lanceolatis acuminatis flore longioribus, calycis segmentis attenuatis alabastro longioribus.

Hab. N. W. Coast. *Dr. Scouler.*—Of this I regret I possess but one specimen, and that only in bud, bearing two scapes, more than a span long; bracteas very long and much acuminated, as are the calyx-segments. Leaves 2 and 2½ inches long.

8. *P. elliptica;* foliis ellipticis membranaceis opacis obscure dentatis petiolo sublongioribus, scapo nudiusculo, calycis parvi laciniis ovatis, antheræ poris brevi-tubulosis, stylo decurvo flexuoso exserto, stigmate annulato disco lobis 5 erectis. (Tab. CXXXV.)—*Nutt. Gen. Am. v.* 1. *p.* 273. *Don, in Wern. Trans. v.* 5. *p.* 233. *Torrey, Fl. of Un. St. v.* 1. *p.* 433.—P. rotundifolia. *Mich. Am. v.* 1. *p.* 251.

Hab. Lake Huron, *Dr. Todd*, throughout Canada, *Mrs Percival*, to the Saskatchawan, *Dr. Richardson. Drummond.*—Well distinguished by Mr. Nuttall from *P. rotundifolia*, being very different in the foliage. The flowers are intermediate between those of *rotundifolia* and *chlorantha*, having the calyx of the latter, and the longer style of the former; the cells are a little produced below the pores. Blossoms exceedingly fragrant, white.

Tab. CXXXV.—*Fig.* 1, Flower, before the full expansion; *fig.* 2, Flower expanded, *fig.* 3, Petal; *fig.* 4, 4, Anthers; *fig.* 5, Pistil.

9. *P. dentata;* foliis oblongis coriaceis opacis remote dentatis inferne angustatis longitudine petioli, scapo nudo, racemo subsecundo, petalis erecto-patentibus, antheræ loculis paululum productis, stylo deflexo flexuoso exserto. (Tab. CXXXVI.)—*Sm. in Rees' Cycl.*—*Don, in Wern. Trans. v.* 5. *p.* 235.

Hab. Nutka Sound, N. W. Coast, and Columbia River. *Mr. Menzies.*

Tab. CXXXVI.—*Fig.* 1, Flower; *fig.* 2, Anther; *fig.* 3, Pistil:—*magnified.*

10. *P. picta;* foliis ovatis subserratis, floribus secundis, antheræ poris contractis tubulosis stylo curvato, stigmate truncato disco 5-lobo.—*Sm. in Rees' Cycl.*

Hab. Nutka Sound, N.W. Coast. *Mr Menzies.*—A solitary specimen of what I take to be this plant, I possess from Mr. Menzies, but I feel almost inclined to unite it with the preceding, differing, as it does, only in the more secund and more numerous flowers, and in the shorter leaves more abrupt at the base, with some obscure pale blotches on the upper side, and a reddish tint beneath.

11. *P. aphylla;* foliis nullis, scapo basi squamato squamis lanceolatis membranaceis, racemo elongato subsecundo, antheræ poris tubulosis, stylo deflexo flexuoso, stigmate annulato disco dentibus 5 elongatis erectis. (Tab. CXXXVII.)—*Sm. in Rees' Cycl.—Don, in Wern. Trans. v. 5. p. 227.*

Annua. *Radix* repens, ramosa, fibrosa, fibris tomentosis. *Folia* omnino nulla! *Scapus* erectus, pedalis, simplex, angulatus, inferne præcipue squamis lanceolatis erectis in axillis non raro geminiferis, superne spiraliter tortus. *Racemus* terminalis, elongatus, subsecundus; floribus majusculis nutantibus. *Pedicelli* longitudine florum, basi bractea parva munita. *Calycis* laciniæ ovatæ acutæ, petalis ovalibus concavis patulis 3-plo breviores. *Stamina* sursum inclinata. *Filamenta* basi dilatata. *Antheræ* oblongæ basi acutæ, medio et lateribus sulcatæ, superne cornibus duobus brevibus apice poro dehiscentibus. *Ovarium* globosum: stylo arcte deflexo flexuoso, apice annulato, disco dentibus 5 erectis.

Hab. North-West Coast. *Mr. Menzies.* Fort Vancouver. *Dr. Scouler.* Plentiful in the dark shady pine woods among *Hypnum*, from Cape Mendocino to Puget Sound: it does not exist beyond 100 miles from the Coast. *Douglas.*

Tab. CXXXVII.—*Fig.* 1, Flower; *fig.* 2, 3, Stamens; *fig.* 4, Capsule; *fig.* 5, Stigma:—*magnified.*

3. PTEROSPORA. *Nutt.*

Cal. 5-phyllus. *Cor.* monopetala, ovata, 5-dentata. *Stam.* 10. *Antheræ* calcaratæ. *Capsula* umbilicata, 5-locularis, 5-valvis. *Semina* apice alata.—Herba *brunnea, viscido-hirsuta.* Folia *squamiformia.* Flores *racemosi. Lindl.*

1. *P. Andromedea.—Nutt. Gen. Am. v.* 1. *p.* 269. *Lindl. Collect. Bot. t.* 5. *Torrey, Fl. of Un. St. v.* 1. *p.* 429.—Monotropa procera. *Torrey, in Eat. Mem. of Bot. ed.* 2. *p.* 324.

Hab. Upper Canada, near the Falls of Niagara. *Mr. C. Whitlow* (in *Nutt.*) Near Quebec. *Mr. Goldie. Mrs. Percival. Mrs. Sheppard.* Saskatchawan. *Drummond.* High mountains of the Grand Rapids of the Columbia, in shady pine woods. *Douglas.*

4. MONOTROPA. *L.* (Monotropa et Hypopithys, *Nutt.*)

Cal. 0. *Cor.* 4–5-petala; petalis basi cucullatis. *Stam.* 8–10 hypogyna. *Antheræ* transversæ, 1-loculares, bilabiatæ. *Stigma* peltatum. *Caps.* 4–5-locularis, 4–5-valvis. *Semina* numerosa, scrobiculata.—Herbæ *parasiticæ, aphyllæ, succulentæ, siccitate nigrescentes, scapis squamosis, racemosis vel unifloris.*

1. *M. Hypopithys;* glabra, floribus racemosis.—*Linn.—Engl. Bot. t.* 713. *Pursh, Fl. Am. v.* 1. *p.* 303. *Torrey, Fl. of Un. St. v.* 1. *p.* 431.—Hypopithys Europæa. *Nutt. Gen. Am. v.* 1. *p.* 271.

Hab. On the roots of Birch (*Pursh*); in the Pine Forests (*Nutt.*) of Canada.—I have never seen Canadian specimens of this species; and Dr. Torrey seems of opinion that the following must have been taken for it.

2. *M. lanuginosa ;* pubescenti-lanata, floribus racemosis.—*Mich. Am. v.* 1. *p.* 266. *Pursh, Fl. Am. v.* 1. *p.* 303. *Elliott, Carol. v.* 1. *p.* 478. *Torrey, v.* 1. *p.* 430.—Hypopithys lanuginosa. *Nutt.*

Hab. Canada. Wood of Portage River. *Drummond.* N.W. Coast. *Menzies.*

3. *M. uniflora;* glabra, flore solitario decandro.—*L.*—*Mich. Am. v.* 1. *p.* 266. *Pursh, Fl. Am. v.* 1. *p.* 303. *Elliott, Carol. v.* 1. *p.* 477. *Hook. Exot. Fl. t.* 85.

Hab. Shady woods, Canada. *Lady Dalhousie.* Lake Huron. *Dr. Todd.*

5. CHIMAPHILA. *Pursh.*

Calyx liber, profunde 5-fidus. *Petala* 5, concava. *Stam.* 10. *Filamenta* erecta, medio disco orbiculato hirsuto vel ciliato. *Antheræ* medio affixæ, basi breviter bicornes poris dehiscentes. *Ovarium* liberum, 5-lobum. *Stylus* perbrevis, crassus. *Stigma* peltatum, planum, dilatatum, 5-lobum. *Capsula* 5-locularis, ab apice dehiscens. *Semina* minuta scrobiculata.—Suffrutices *caulescentes, ramosæ.* Folia *opposita, subverticillata, nunc alterna, coriacea, oblonga, dentato-serrata.* Pedunculi *terminales, bracteati vel nudi, uniflori vel umbellati.*

1. *C. umbellata;* foliis verticillatis cuneato-lanceolatis serratis immaculatis basi in petiolum perbrevem angustatis, umbella subquinqueflora.—*Pursh, Fl. Am. v.* 1. *p.* 30. *Nutt. Gen. Am. v.* 1. *p.* 274.—Pyrola umbellata. *Linn.—Mich. Am. v.* 1. *p.* 251. *Curt. Bot. Mag. t.* 778. *Bigel. Fl. Bost. ed.* 2. *p.* 174. *Torrey, Fl. of Un. St. v.* 1. *p.* 435. *Don, in Wern. Trans. v.* 5. *p.* 243.

Hab. Lake Huron. *Dr. Todd,* Quebec, *Mrs. Percival,* and to the Saskatchawan and Rocky Mountains, in lat. 53°. *Dr. Richardson, Drummond;* also from near the sources of the Columbia (*Drummond*) to the Pacific. *Douglas, Dr. Scouler, Mr. Menzies.*

2. *C. maculata;* foliis subverticillatis lanceolatis acuminatis grosse serratis brevi-petiolatis discoloribus superne variegatis, umbella 3–4-flora.—*Pursh, Fl. Am. v.* 1. *p.* 300. *Elliott, Carol. v.* 1. *p.* 505. *Nutt. Gen. Am. v.* 1. *p.* 275.—Pyrola maculata. *L.—Mich. Am. v.* 1. *p.* 251. *Bigel. Fl. Bost. ed.* 2. *p.* 175.

Hab. This was gathered in the route from New York to Cumberland House Fort, on the Saskatchawan: but whether in British America, or, as is probable, in the United States, is not mentioned.

3. *C. Menziesii;* foliis alternis rarius oppositis seu subverticillatis ovato-lanceolatis acutis serratis discoloribus superne immaculatis, pedunculo bracteato 1–2-floro, stylo distincto. (Tab. CXXXVIII.)—Pyrola Menziesii. *Br. in Herb. Banks.—Don, in Wern. Trans.*

Suffruticosa. *Caulis* basi decumbens, gracilis, flexuosus, squamosus, squamis late ovatis, concavis, membranaceis. *Folia* subunciam longa, plerumque alterna, coriacea, sempervirentia, brevi-petiolata, acuta, serrata, subtus purpurascentia, supra viridia, unicoloria. *Pedunculus* terminalis, bracteatus, plerumque biflorus; bracteis late ovatis, concavis, membranaceis, fuscis. *Flores* majusculi, nutantes. *Calycis* laciniæ oblongo-lanceolatæ. *Petala* ovalia demum patentissima. *Filamenta* disco piloso. *Stylus* quam in 2 speciebus precedentibus longior. *Stigma* planum, margine obscure 5-lobum.

Hab. N.W. Coast. *Mr. Menzies.* On high woody grounds at the base of Mount Hood, near the great Falls of the Columbia; not common.—Nearly allied to the preceding, but the leaves are much shorter. The peduncle has large concave bracteas, and I have never seen more than two flowers on any specimen.

Tab. CXXXVIII.—*Fig.* 1, Flower; *fig.* 2, Flower with the petals spread open; *fig.* 3, Stamens; *fig.* 4, Pistil:—*magnified.*

[Obs. When I published my *Tolmiea*, in the preceding part of this work, I was not aware that it was already described and figured by M. Bongard, in his *Vegetation de Sitcha*, under the name of *Cladothamnus pyrolifolius*, p. 37. t. 1,—a name which, of course, must be preferred to mine.]

Ord. LVI. JASMINEÆ. *Juss.*

1. LIGUSTRUM. *L.*

Cal. minutus, 4-dentatus. *Cor.* tubo brevi limbo 4-fido. *Stam.* 2. *Filamenta* brevia. *Stylus* brevissimus. *Stigma* bifidum. *Bacca* globosa, unilocularis, 2–4-sperma.—Frutices. Folia *interdum perennia.*

1. *L. vulgare;* foliis elliptico-lanceolatis glabris, panicula coarctata.—*L.*—*Engl. Bot. t.* 764. *Mich. Am. v.* 1. *p.* 3. *Pursh, Fl. Am. v.* 1. *p.* 7. *Torrey, Fl. v.* 1. *p.* 7.

Hab. Canada, (not indigenous.)

2. FRAXINUS. *L.*

Flores sæpe polygami. *Cal.* 4-partitus v. nullus. *Cor.* 4-partita v. tetrapetala v. nulla. *Stam.* 2. *Fructus: Samara* pendula basi monosperma.—Arbores *regiones temperatas habitantes.* Folia *opposita pinnata.* Flores *apetali et polygami* (Fraxinus), *vel hermaphroditi subtetrapetali* (Ornus, *Scop.*)

1. *F. sambucifolia;* foliolis sessilibus ovato-lanceolatis serratis rugoso-nitidis basi rotundatis inæqualibus axillis venarum subtus villosis, floribus nudis (*Ph.*), samaris ellipticis basi obtusis apice emarginatis (*Mx.*)—*Willd.*—*Mich. N. Am. Sylv.* (*ed. Philad.* 1819) *v.* 3. *p.* 122. *Pursh, Fl. Am. v.* 1. *p.* 8.

Hab. New Brunswick and Nova Scotia. *Michaux.* Canada. *Willd.*

2. *F. epiptera;* foliolis ad summum 4-jugis oblongo-ovalibus acuminatis subintegris, capsulis obverse lanceolatis apice obtuse emarginatis ima parte teretibus apteris. *Mich. Am. v.* 2. *p.* 56. *Pursh, Fl. Am. v.* 1. *p.* 8.

Hab. Canada. *Pursh.*—I give this as a native of the British possessions on the authority of Pursh, who, however, makes no reference to *Michaux, Flora Bor. Am.*, where the species first appears, and where it is said to be a native of Virginia and Carolina. What I have called *F. epiptera*, in the *Companion to the Bot. Mag.*, from Drummond's N. Orl. Coll., (n. 210,) has the leaves quite entire; the ripe samaræ are 2½ inches long, terete at the base; wing very long, (as described by Elliott, and figured by Gærtner,) and of nearly the same width to the very apex. Pursh quotes "*F. discolor*, Mich. Arb. Forest.;" but in my ed. of the *Sylva* there is no such plant, either under that name, or under *F. epiptera;* there, however, is an *F. discolor* of Muhl. referred to *F. Americana*, L. (*F. acuminata*, Lam.)

3. *F. Americana;* foliolis petiolatis oblongo-ovatis acuminatis integerrimis vel grosse serratis subtus pallidioribus, floribus calyculatis, capsulis basi teretibus ala lineari-lanceolata obtusa læviter emarginata. L.—*Willd. Sp. Pl. p.* 1102.—F. acuminata. *Lam.—Pursh, Fl. Am. v.* 1. *p.* 9. *Elliott, Carol. v.* 2. *p.* 672. *Mich. N. Am. Sylv. v.* 3. *p.* 118. *Bigel. Fl. Bost.* (*ed.* 2.) *p.* 380.

Hab. Canada (*Ph.*) to the Saskatchawan. *Drummond.*—This is the only *Ash* noticed in the *Boston Flora* of Dr. Bigelow: but I have seen no specimens from Canada exactly according with Pursh's description, that is, having the leaflets entire, shining, and glaucous beneath. Some of the leaves are deeply serrated.

4. *F. pubescens;* foliolis petiolatis elliptico-ovatis serratis subtus petiolis ramulisque tomentosis, floribus calyculatis (*Ph.*), samaris oblongis obtusissimis emarginatis sensim in basin brevem teretem attenuatis.—*Walt.—Ph. Fl. Am. v.* 1, *p.* 9.—F. tomentosa. *Mich. N. Am. Sylv. t.* 119.—*β.* foliolis subintegerrimis.

Hab. Canada. *Ph.* Saskatchawan. *Drummond.*—*β.* Banks of the Columbia. *Douglas, Dr. Scouler.*

Ord. LVII. APOCYNEÆ. *Br.*

1. APOCYNUM. *Br.* Apocyni *sp.* L.

Cor. campanulata. *Tubus* denticulis 5 acutis inclusis, laciniis limbi oppositis. *Faux* nuda. *Stam.* inclusa. *Antheræ* sagittatæ, medio stigmati cohærentes, lobis posticis polline vacuis. *Ovaria* 2. *Styli* subnulli. *Stigma* dilatatum, apice conico. *Squamæ* 5 hypogynæ. *Folliculi* graciles, distincti.—Herbæ *perennes, erectæ.* Folia *opposita, membranacea.* Flores *cymosi. Br.*

1. *A. androsæmifolium;* foliis ovatis supra glabris, cymis terminalibus lateralibusque, tubo corollæ calycem bis superante.—*Linn.—Mich. Am. v.* 1, *p.* 121. *Rich. App. p.* 9.

Hab. Canada and throughout the woody country; Hudson's Bay. *Dr. Wright.—Leaves* pubescent beneath in all my specimens which are from various parts of N. America.

2. *A. cannabinum;* foliis oblongis utrinque acutis glabris, cymis paniculatis, calyce tubum corollæ æquante. *Linn.* (Tab. CXXXIX.)—*Br.—Torrey, Fl. v.* 1. *p.* 276. *Ell.*—*β.* foliis subtus pubescentibus. A. cannabinum. *Mich. Am. v.* 1. *p.* 122? *Ph. Fl. Am. v.* 1. *p.* 179? —A. pubescens. *Torrey, Fl. v.* 1. *p.* 276. (*vix Br.*)

Hab. Canada. Lake Huron. *Dr. Todd.*—Michaux seems to have misled some of the American Botanists by describing the underside of the leaves as "*candicanti-tomentosa,*"—a circumstance common enough in *A. androsæmifolium*, but of rare occurrence in *A. cannabinum*, of which I have only seen one specimen, and that from Lexington, Kentucky, with its leaves downy beneath. The two species are truly distinct in the shape of their leaves, and the relative length of the calyx and corolla.

Tab. CXXXIX.—*Fig.* 1, Fruit;—*nat. size.*

3. *A. hypericifolium;* foliis cordato-oblongis glabris sessilibus mucronatis, cymis folio brevioribus, calyce tubum corollæ æquante.—(Tab. CXL.)—*Ait. Hort. Kew. v.* 1. *p.* 304. *Pursh, Fl. Am. v.* 1. *p.* 179. *Torrey, Fl. Am. v.* 1. *p.* 276.—A. Sibiricum. *Jacq. Hort. v.* 3. *p.* 66. *(non Pall.)*—*β.* foliis latioribus.

Hab. Throughout Canada to the Saskatchawan. *Dr. Richardson, Drummond.* Lake Huron. *Dr. Todd.*—*β.* West side of the Rocky Mountains. *Douglas.*—This is a stouter and more upright-growing plant, and less branched, than the preceding; but the upper leaves are sometimes acute at the base, and slightly stalked, and then it is with difficulty distinguished from *A. cannabinum.* Of the *var.* β. Mr. Douglas observes that the flax is used by the tribes residing on the west side of the Rocky Mountains to make their fishing-nets. They are strong, buoyant, and answer the purpose extremely well.

Tab. CXL.—*Fig.* 1, Flower; *fig.* 2, Stamens; *fig.* 3, Pistil:—*magnified.*

Ord. LVIII. ASCLEPIADEÆ. *Br.*

ASCLEPIAS. *Br.* Ascl. *sp.* L.

Corolla 5-partita, reflexa. *Corona* summo tubo filamentorum imposita, 5-phylla, foliolis cucullatis, e fundo exerentibus processum aversum corniformem. *Antheræ* membrana terminatæ. *Massæ pollinis* compressæ, apice attenuato affixæ, pendulæ. *Stigma* depressum muticum. *Folliculi* (plerumque) læves. *Semina* comosa.—Herbæ *Americanæ erectæ.* Folia *opposita nunc alterna! vel verticillata.* Umbellæ *interpetiolares. Br.*

* *Folia semper opposita.*

1. *A. Syriaca;* caule subsimplici, foliis oblongo-ovalibus ovatisve acutis subtus tomentosis, umbellis multifloris, coronæ foliolis ovatis obtusis cornu longioribus intus bidentatis, folliculis muricatis.—*Linn.*—*Pursh, Fl. Am. v.* 1. *p.* 181. *Torrey, Fl. v.* 1. *p.* 279.—*β. Mich. Am. v.* 1. *p.* 114.

Hab. Canada (*Mrs. Percival, Mrs. Shepperd*) to the Saskatchawan. *Dr. Richardson, Drummond.* Lake Huron. *Dr. Todd.*

2. *A. variegata;* caule erecto simplici, foliis ovatis brevi-petiolatis, umbellis terminalibus, coronæ foliolis obovatis subcucullatis patentibus cornu acuminato brevioribus intus basin versus bidentatis.—*α. major;* foliis utrinque glabris, umbellis densifloris, coronæ foliolis late obovatis cornu latissimo rostrato.—A. variegata. L.—*Bot. Mag. t.* 1182. *Pursh, Fl. Am. v.* 1. *p.* 181. *Elliott, Carol. v.* 1. *p.* 317. *Torrey, Fl. v.* 1. *p.* 281.—A. hybrida. *Mich.*—*β. minor;* umbellis laxis paucifloris, foliis subtus præcipue pubescenti-tomentosis, coronæ foliolis obovatis cornu angustiore minus evidenter rostrato. (Tab. CXLI.)

Hab. β. Carlton House Fort. *Dr. Richardson.* Plains of the Red River and banks of the Assinaboine. *Douglas.*—The usual state of this plant I have not seen from British America; nor am I sure that I am correct in considering this a variety of that species. It is smaller in every part; the leaves very downy beneath, and more obtuse at the base; and there are the differences mentioned above in the inflorescence and flowers. The shape of the horn, however, in the solitary specimen I have from Mr. Douglas, is much broader, and more like that of the true *A. variegata,* than it is in Mr. Drummond's plants.

Tab. CXLI.—*Fig.* 1, Flower; *fig.* 2, Leaflet of the Corona with its horn:—*magnified.*

3. *A. Douglasii;* caule subsimplici, foliis cordato-ovatis acutis subtus umbellis multifloris calyce corollisque dense tomentosis, coronæ foliolis ovatis longe acuminatis cornu longioribus intus bidentatis. (Tab. CXLII.)

Hab. On low points of land on the banks of streams, west side of the Rocky Mountains; rare. *Douglas.*—Leaves somewhat resembling the last species, but broader and more coriaceous. The flowers thrice as large, and also remarkable for the great length of the coronal leaflet.

Tab. CXLII.—*Fig.* 1, Flower; *fig.* 2, Leaflet of the corona with its horn.

4. *A. nivea;* caule erecto simplici, foliis lato-lanceolatis acuminatis membranaceis glabris subtus pallidioribus, umbellis multifloris laxis, coronæ foliolis truncatis dentatis cornu brevioribus, folliculis lævibus.—*Linn.—Bot. Mag. t.* 1187. *Pursh, Fl. Am. v.* 1. *p.* 181.—P. phytolaccoides. *Lyon.—Pursh, Fl. Am. v.*1. *p.* 180. *Elliott, Carol. v.* 1. *p.* 319. *Torrey, Fl. v.* 1. *p.* 280.

Hab. Canada. *Dr. Holmes.*—I have received the fruit, which is very rare and had not been seen by Dr. Torrey, from Dr. Darlington. The figure in the Bot. Magazine is excellent; and I think I am correct in uniting Pursh's *A. phytolaccoides* with *A. nivea.*

5. *A. viridiflora;* caule simplici pubescente, foliis ovalibus oblongis lanceolatisve subsessilibus apiculatis subtus præcipue pubescentibus, umbellis lateralibus densissime multifloris subsessilibus, coronæ foliolis oblongis retusis erectis appressis dorso canaliculato longitudine columnæ cornu nullo. (Tab. CXLIII. A.)—*Raf.—Pursh, Fl. Am. v.* 1. *p.* 181. *Torrey, Fl. v.* 1. *p.* 264.—A. obovata. *Ell.—β. lanceolata;* foliis elongato-lanceolatis crispatis. (Tab. CXLIII. B.)—A. longifolia. *Mich.?*—A. lanceolata. *Ives, in Sillim. Journ.*

Hab. Head of Lake Erie. *Mr. Goldie.* About Carlton House Fort, both *α.* and *β. Dr. Richardson. β.* Banks of the Red River. *Douglas.*—Exceedingly variable in the form and length of its leaves. The species agrees with *Gomphocarpus* in the absence of the horn to the leaflets of the corona, but differs in the smooth follicles. The leaflets of the corona are singularly erect, oblong, retuse, channelled down the back; the margins incurved and united by their lower half with the neck of the column, each having a small auricle on either side, at the top of the juncture.

Tab. CXLIII.—*Fig.* 1, Flower; *fig.* 2, Portion of the corona, seen from within:—*magnified.*

6. *A. incarnata;* pubescens vel glabra erecta ramosa, foliis oblongis lanceolatisve, umbellis terminalibus plurimis sæpe geminis, columna elongata, coronæ foliolis erectis ovalibus obtusis cornu subulato incurvo brevioribus.—*L.—Mich. Am. v.* 1. *p.* 115. *Elliott, Carol. v.* 1. *p.* 320. *Bot. Reg. t.* 250. *Torrey, Fl. v.* 1. *p.* 281.

Hab. Throughout Canada to the Saskatchawan. *Dr. Richardson, Drummond.*—Extremely variable in the length, and breadth, and downiness of the foliage; generally quite glabrous. Frequently, when the stem is otherwise glabrous, a hairy line runs along one side of it. The figure in *Bot. Register* is excellent. All that I have received from the American Botanists as *A. amœna,* I cannot distinguish specifically from the present; indeed, the species of this genus have been very ill defined, and require careful revision. The leaflets of the corona and the horn appear to afford some of the best marks of distinction. The *A. amœna* of Sweet's Fl. Garden, t. 82, seems to me referable to a deep-coloured state of *A. Syriaca.*

7. *A. quadrifolia;* caule erecto simplici paucifoliato, foliis ovatis acuminatis ciliatis oppositis subverticillatisque petiolatis, umbellis terminalibus solitariis v. geminis laxis, coronæ foliolis patentibus oblongis obtusis intus basin versus bidentatis cornu longioribus. *Jacq. Obs.* 2. *p.* 23. *Pursh, Fl. Am. v.* 1. *p.* 183. *Elliott, Carol. v* 1. *p.* 319. *Torrey, Fl. v.* 1. *p.* 283.

Hab. Canada. *Dr. Beck.*

* * *Folia sparsa seu verticillata.*

8. *A. tuberosa;* erecta ramosa pilosa, foliis alternis lanceolatis subsessilibus, umbellis numerosis terminalibus laxis, coronæ foliolis erectis lanceolatis intus bidentatis longitudine cornu subulati stricti.—*L.—Mich. Am. v.* 1. *p.* 117. *Pursh, Fl. Am. v.* 1. *p.* 183. *Elliott, Carol. v.* 1. *p.* 325. *Bot. Reg. t.* 76. *Torrey, Fl. v.* 1. *p.* 285.

Hab. Lake Huron. *Dr. Todd.*—Readily distinguished by its alternate leaves and bright orange-coloured flowers.

9. *A. verticillata;* erecta simplex gracilis, foliis sparsis verticillatisque linearibus, umbellis terminalibus axillaribusque, columna breviuscula, coronæ foliolis ovalibus cucullatis cornu curvato brevioribus.—(Tab. CXLIV.)—*L.—Mich. Am. v.* 1. *p.* 116. *Pursh, Fl. Am. v.* 1. *p.* 183. *Elliott, Carol. v.* 1. *p.* 324. *Torrey, Fl. v.* 1. *p.* 284.

Hab. Abundant on the alluvial plains of the Red River, and banks of the Saskatchawan, near Carlton House. *Douglas.*

Tab. CXLIV.—*Fig.* 1, Flower; *fig.* 2, Leaflet of the corona, with its horn:—*magnified.*

Ord. LIX. GENTIANEÆ.* *Juss.*

Trib. I. Swertieæ. *Inflorescentia racemiformis. Sepala sublibera, membrana scariosa intracalycina juncta. Antheræ immutatæ, rima loculorum sursum dehiscente. Capsula corolla marcescente plerumque cincta, placentis l. cum endocarpio valvulæ connatis (semina ex ipsis valvulis oriunda,) l. in sutura valvularum spongiosis unilocularis, l. rarissime placenta centrali bilocularis. Corolla cœrula, ochroleuca, l. purpurascens, sæpissime punctis conspersa.—Herbæ, pleræque zonam arcticam subarcticam, tractusque alpinos, paucæ temperatas terras incolentes.*

1. GENTIANA. *L.*

Foveæ epipetalæ glanduliferæ 0. *Filamenta* basi æqualia. *Stigmata* terminalia. *Capsula* unilocularis, placentis cum endocarpio connatis.

Sectio I. Cyane, *Ren.—Corollæ plicâ intermediâ auctæ, eglandulosæ, lobi cum tubo continui. Stigmata distincta, revoluta. Capsula stipitata. Testa sæpius ala discolori cincta. Herbæ perennes.*

* I am indebted to the kindness of Dr. Grisebach for the following account of the British North American *Gentianeæ*, which he has drawn up purposely for this work.

* *Corolla clavata apice connivente.*

1. *G. Saponaria* (*L.*); caule ascendente, foliis ovato-lanceolatis obovatisque margine scabris, floribus aggregatis subsessilibus bracteatis, calycis integri lobis tubum subæquantibus, corollæ cyaneæ lobis ovatis obtusis plicâ (fissa) duplo longioribus, antheris connatis, seminibus anguste alatis. *L. Sp. Pl.* 1. *p.* 330, (*excluso citat. Plukn.*) *Lam. Encycl.* 2. *p.* 637. *Ait. Hort. Kew.* 2. *p.* 111. *Sims Bot. Mag. t.* 1039 (excl. syn. *Froel. et Mich.*) *Pursh, Fl.* 1. *p.* 185. (excl. cit. *Andr.*)—G. Catesbæi. *Walt. p.* 109. *Nutt.* 1. *p.* 172.—G. fimbriata. *Vahl, Symb.* 3. *p.* 46.—*β. linearis;* foliis lineari-lanceolatis, antheris demum liberis.—G. Catesbæi. *Ell.* 1. 339.—G. linearis. *Froel. Mon. p.* 37. *Pursh,* 1. *p.* 186.—G. Pneumonanthe. *Mich.* 1. *p.* 176.—G. pseudopneumonanthe. *R.* 5. et *p.* 146.—G. puberula. *Mich.?* 1. *p.* 176.

Hab.—*β.* has been collected in Canada, (*Mrs. Percival,*) in the neighbourhood of Quebec, and at Lake St. Charles. *Mr. Sheppard.* I have seen specimens of the broad-leaved var. from as far northward as Maryland; but it undoubtedly occurs with its variety *β.* at the above-mentioned places, as they by no means specifically differ from each other. I am certain that this is the true *G. Saponaria* of Linneus; for his diagnosis, and the drawings which he quotes, viz. those of Catesby (Carol. 1. t. 70) and of Morison (vol. 3. sect. 12. t. 5) leave no doubt of it. The quotation of Plukenet is, however, erroneous. The drawing of Catesby also proves that *G. Catesbæi* (Walt.) is identical with our species; and it is natural that Froelich found fault with that drawing, from the absence of the plicæ, which may be easily overlooked in this species, but not in the following. *G. Saponaria* is much rarer than the following, which has been often taken for it as well by American as European botanists. The variety *β.* may be still commoner than *α.* which has been quite overlooked by some of the American botanists; as, for instance, Michaux, Elliot, and lately, Beck. This species is always of lower growth, but scarcely smaller-flowered, than the following; the leaves are somewhat coriaceous; the flowers almost all terminal and crowded: nevertheless, these characters, though valuable in general, are not constant in all cases; but I have not found that the variations which take place in the proportions of the *lobi* and *plica corollæ*, ever exceed certain bounds. There are, besides, most valuable characteristic differences afforded by the seeds of these species: *G. Saponaria* L. has oblong-winged seeds, the wing of which is narrow on both sides, and long and attenuated towards the ends; the seeds of *G. Andrewsii* are orbicular, and very broadly and equally winged; while those of *G. ochroleuca* have no wing at all. The connexion of the anthers, and the length of the *lobi calycis*, are of much less consequence. By the investigation of Sir W. Hooker, (in the *Companion to the Bot. Mag.* p. 171.) it has been proved that *G. Pneumonanthe* of the American authors is merely a variety of this species; and however distant they may seem to stand when studied only in their common forms, nevertheless the variety *β.* of *G. Saponaria* is so similar in some cases to *G. Pneumonanthe*, that it is very difficult to distinguish them. For in those forms in which the plica is quite entire, (as, for instance, in that of Dr. Boott, in the Hookerian herbarium, quoted by himself,) it is impossible to find out any decided difference in the structure of the corolla. I examined authentic specimens from Silesia, the *lobi corollæ* of which were blunt and somewhat converging. On the other hand, *G. Saponaria* has sometimes an open corolla, as *G. Pneumonanthe* commonly has. But there is a minute character, which seems to be most constant, and certainly has an important connexion with the whole of the species—viz. a distinct roughness on the margins of the leaves, so that they appear serrated under a magnifying glass, while *G. Pneumonanthe* is always entirely smooth: I think that that roughness is the remains of those scabrous forms, which exist almost in all American species of *Gentianæ.*

2. *G. Andrewsii* (Griseb.); caule ascendente, foliis ovato-lanceolatis acuminatis margine

scabris, floribus aggregatis subsessilibus bracteatis, calycis integri lobis tubo brevioribus, corollæ cyaneæ plica fisso-subbiloba lobos corollæ obliteratos excedente, antheris connatis, seminibus late alatis. G. Saponaria. *Froel. p.* 32 (*excl. synon.*) *Nutt.* 1. *p.* 172. *Elliott,* 1. *p.* 339. *Beck, p.* 239.—*β. linearis;* foliis anguste lanceolatis, calycis lobis tubum subæquuantibus, caule asperisculo. G. Catesbæi. *Andrews Bot. Rep.* 6. *t.* 418. *Aiton Hort. Kew.* 2. *p.* 112.

Hab. Both forms occur in Canada. *Mr. Cleghorn.* Lake Huron. *Dr. Todd.*—It is indeed with regret that I must apply a new name to a plant so well known and widely dispersed; but it seemed necessary to call that plant of Linnaeus which has been proved to be identical with that of Walter *G. Saponaria.* The confusion of these species arose from Froelich's Monograph, who confounded this species with *G. Saponaria* of Linnaeus, of which he knew only the variety β; but that did not agree with Linnaeus's diagnosis, and was therefore described by him as a new species. The confusion increased, when Michaux took the *G. ochroleuca* for Linnæus' *G. Saponaria.* The *G. puberula* of the former is now a doubtful synonym, all species of this group being occasionally rough. If Pursh was right in referring it to *G. linearis,* F., it belongs to *G. Saponaria,* L., and would differ from *G. Pneumonanthe,* Mich. merely by the form of the plica; but as *G. Andrewsii* is the commoner plant of the two, it is probable that Michaux designated by his *G. puberula* the variety β. of the latter, in which case his name should be adopted. It is desirable that this question should be determined by the inspection of Michaux's herbarium. Pursh does not seem to have well examined these species, as he quotes for his *G. Saponaria* the plates as well of Andrews as of Sims. He may have considered both the narrow-leaved varieties as one species, viz. his *G. linearis,* and the chief forms of both species as belonging to a second. This makes indeed the synonym of *G. puberula* Mich. the more doubtful: the corolla in both forms is described by Pursh in the same way, and indeed most unsatisfactorily. The best description of *G. Andrewsii* has been published by Elliott.

3. *G. ochroleuca* (*Froel.*); caule ascendente, foliis ovato-lanceolatis obovatisque margine scabriusculis, floribus terminalibus aggregatis sessilibus bracteatis, calycis integri lobis inæqualibus tubum æquantibus, corollæ ochroleucæ lobis ovatis obtusis, plica integra acuta brevissima, antheris liberis, seminibus exalatis.—G. major virginiana. *Plukn. alm.* 166. *t.* 186. *f.* 1.—G. villosa. *L. sp. pl.* 1. *p.* 330.—G. Saponaria. *Walt. p.* 109. *Mich.* 1. *p.* 176. —G. ochroleuca. *Froel. p.* 35. *Pursh,* 1. *p.* 185. *Elliott,* 1. *p.* 340. *Beck, p.* 239. *Sims, Bot. Mag.* 1531.

Hab. Canada. *Mr. Goldie.* Grows in sandy fields.—The two preceding species prefer a fat and somewhat humid soil. It is remarkable how much the form of the leaves varies in these species. The most frequent form of *G. ochroleuca* is perhaps an obovate leaf, but the broadest part is also very often near its base; I have seen many specimens with cordato-lanceolate leaves. Mühlenberg, however, sent to Willdenow a specimen, the leaves of which are almost orbicular. It never occurs so narrow-leaved as the varieties of the preceding species, but generally the form of the foliage is analogous to that of *G. Saponaria,* while *G. Andrewsii* has commonly longer and narrower leaves, the broadest part of which is near their base. With respect to the similar variableness of the corolla, see the excellent observations of Sir W. Hooker, in the *Companion to the Bot. Mag. l. c.*

* * *Corollâ sensim ampliata aperta.*

4. *G. affinis* (Griseb.); caule ascendente, foliis margine scabris inferioribus obovato-oblongis obtusis, superioribus lanceolatis acutiusculis, floribus subsolitarii soppositis pedi-

cellatis bracteatis, calyce integro, corollæ cyaneæ lobis oblongo-lanceolatis plicam apice fissam triplo superantibus, antheris liberis, seminibus ovalibus alâ tenui cinctis.

Habitus *G. Pneumonanthis.* *Herba* ascendenti-erecta, pedalis. *Caulis* solitarius, striato-subangulatus, pennam corvinam crassus, simplex, plerumque hirsutiusculo-scaber. *Internodia* inferiora semiuncialia, superiora sensim longiora. *Folia* erecto-patentia, glabra, margine ad lentem serrulata, substantiâ foliari usque ad punctum connationis producta, inferiora obtusissima (10‴ longa, 4‴ lata), cetera oblongo-lanceolata et lanceolata, rigidiuscula, obsolete 3–5nervia (unciam longa, 1½‴–2½‴ lata.) *Flores* solitarii in superioribus axillis; inferiores longius pedicellati, tres summi approximati, singuli bracteati. *Sepala* foliacea, subæqualia, membranâ intra calycina duplo breviori conglutinata, oblongo-linearia, acutiuscula, corolla duplo breviora, distantia (hinc membrana illa aucta), calyx truncatus, integer, turbinatus. *Corolla* (facie *Gentianæ Pneumonanthis*) cyanea, lobis oblongo-lanceolatis, obtusis, patentibus, tubo triplo brevioribus. *Genitalia* inclusa. *Antheræ* ovales, basi obtuse cordatæ. *Ovarium* oblongo-lineare, utrinque attenuatum, stigmatibus connatis, sub anthesi erectiusculis. *Capsula* elliptico-oblonga, in brevem stipitem attenuata, corollam marcescentem æquans. *Semina* creberrima, plana, ovalia, alâ tenui æquali circumdata.—Differt a *G. Saponariâ β.*, cui proxima: inflorescentiâ, sepalis acutiusculis nec acuminatis, corollæ loborum ac tubi figurâ, antheris liberis, earum seminum formâ; a *G. adsurgente.* Cervant. mscrpt. floribus bracteatis, corollæ lobis oblongo-lanceolatis nec obovatis, rotundatis, caule scabro; a *G. triflora Pall.* floribus pedicellatis, plicâ apice fissa, foliis margine scabris, inferioribus latioribus, caule scabro, seminibus alatis; a *G. angustifolia Mich.* inflorescentiâ, floribus bracteatis, corollæ lobis obtusis, foliis margine scabris, latioribus, etc.; a *G. Pneumonanthe, L.* antheris liberis cordatis, plicâ apice fissâ, foliis margine scabris, inferne densioribus, pedicellis oppositis.

Hab. Carlton House to Edmonton House. *Mr. Drummond.* Vallies of the Rocky Mountains. *Mr. Douglas, Mr. Drummond.* Abundant in the mountain vallies, between Spokan and Kettle Falls, in alluvial deposits. *Mr. Douglas.*—There is a variety in which the under leaves are reduced to scales. This species stands indeed very near those above mentioned.

5. *G. angustifolia* (Mich.); caule flexuoso, foliis linearibus obtusis (hinc cuspidatis) margine lævibus, flore unico terminali pedunculato ebracteato, calyce integro, corollæ cyaneæ lobis ovato-oblongis obtusis plica multifidâ duplo longioribus, antheris connatis demum liberis.—*Mich.* 1. *p.* 177. *Pursh,* 1. *p.* 186. *Beck, p.* 240.—G. purpurea. *Walt. Carol.* 109.—G. porphyris. *Walt. App.*—*Gmel. Sib. v.* 5. *p.* 462.

Hab. Canada. *Mr. Goldie.* It grows in sandy fields and pine barrens.—*G. frigida,* H. and K., has been found by Chamisso on the opposite shore of Behring's Strait, at the Gulf of St. Lawrence, and must undoubtedly occur also on the American side, although it does not seem yet to have been detected.

6. *G. Sceptrum* (Griseb.); caule stricto elato, foliis oblongo-lanceolatis elongatis obtusis margine lævibus, pedunculis axillaribus oppositis 2–3-floris, calyce integro, corollis cæruleis, plica vix producta integra, antheris liberis. (Tab. CXLV.)

Caulis 3–4-pedalis, pennam anserinam (inferne cygneam) crassus, strictus, teres, striatus, glaberrimus, foliosus, præter inflorescentiam simplex, siccitate flavescens. *Internodia* inferiora sesquiuncialia, superiora subæqualia 2–3 uncialia folia æquantia l. paullum excedentia. *Folia* erecta, cauli approximata, inferiora elongato-lanceolata (biuncialia), media oblongo-l. elliptico-lanceolata, basi lata, connata apice obtusa, (2–2½ unc. longa, 10–12 lin. lata,) superiora elliptico-oblonga (sesquiuncialia, unciam lata,) omnia septemnervia, nervo medio prominente, lævia, glaberrima, margine subrevoluto lævi. Ex superioribus axillis enascuntur *pedunculi* oppositi, nudi, erectiusculi l. apice subcernui, inferiores folium superantes, superiores

vix æquantes, 2–3-flori, floribus subsessilibus in involucro duarum bractearum, (raro 1-flori, flore bibracteato.) *Flores* oblique erecti. *Sepala* foliacea, distantia, inæqualia, ovata lanceolataque, unciam longa, membrana intracalycina duplo breviori. *Corolla* fere biuncialis, ex basi attenuata sensim ampliata, lobis erectis late ovatis, obtusiusculis, tubo quinquies brevioribus, plica truncata l. breviter triangulari. *Stamina* tubo breviora, antheris incumbentibus sagittatis. *Germen* oblongo-lineare, utrinque attenuatum, stylo recto longiusculo. *Capsula* elliptico-oblonga, in stipitem æque longum attenuata, stigmatibus duobus crassis atris reflexis coronata, corollam marcescentem auctam æquans. *Semina* oblonga, flavo-brunnea, testa grosse areolata, altero latere tenuissime alata, altero exalata, apice et basi processu alæformi instructa.

Hab. Plentiful in low moist soil near Fort Vancouver. *Mr. Douglas.* Swamps in woods near the Columbia River. *Dr. Gairdner.*—This is one of the most beautiful and distinct species of the genus; it has no resemblance whatever with any individual of the group *Cyane*, and stands nearer, as regards habit, the group of *Cælanthe*, Ren., to which belong *G. purpurea*, L. and some other species: it is especially like a new one of that group from Kamschatka, but differs from all of them by the long-stalked capsules. The singular inflorescence contributes much to elucidate the pseudo-verticilli of *G. lutea*, L.

Tab. CXLV.—*Fig.* 1, Flower laid open :—*nat. size.*

7. *G. platypetala* (Griseb.); caule ascendente, foliis abbreviatis ovato-subrotundis, flore unico terminali sessili, calycis integri lobis ovatis acuminatis, corollæ cæruleæ lobis reniformibus mucronatis plicam triangularem integerrimam duplo superantibus, antheris liberis.

Radix repens, annulis densis obsessa, superne foliorum emarcidorum vestigiis tecta. *Caules* plures ex eâdem radice, spithamei, inferne nudi, superne dense foliosi. *Folia* ovato-subrotunda l. ovato-oblonga (8‴ longa) internodia superantia. *Flos* in folia suprema immersus. *Calyx* patulus, 5-fidus, rubicundus, corolla duplo brevior, sepalis membranâ intracalycinâ basi connexis. *Corolla* basi lata, sensim ampliata, unciam longa; lobi erecti, vix 2‴ longi, ex basi angustiori dilatati, apice fere truncati, cuspidato-mucronati, medio latiores quam longi. *Plica* acutissima. *Genitalia* tubo multo breviora. *Antheræ* incumbentes. *Ovarium* elliptico-lineare. *Capsula* elliptico-oblonga.

Hab. In the island of Sitcha, where it was found during the second expedition of Capt. Kotzebue. I have seen specimens in the herbarium of Chamisso, and am not aware that it has been as yet described by Russian botanists.—This constitutes, together with the two following species, a small, but very remarkable and distinct group. Their general appearance is similar to *G. septemfida*, Pall.; they have a thick and creeping root, often marked by singular rings, formed by concentric ruptures of the epidermis;—these gradually loosen, and afterwards become contracted; the stem is low and ascending, sometimes more than one grows from the same root; their leaves are short, roundish, and bent downwards; the flowers have no peduncle whatever, they are always solitary at the summit of the stem, the calyx being in immediate connexion with the uppermost leaves; the seeds seem to be angular and not winged; at least such is the case in *G. calycosa.*

8. *G. calycosa* (Griseb.); caule ascendente, foliis abbreviatis ovato-l. cordato-subrotundis margine scabriusculis, floribus solitariis terminalibus sessilibus, calyce integro, lobis latissime foliaceis inæqualibus, corollæ cæruleæ lobis ovato-oblongis acutis, plica multifida, antheris demum liberis. (Tab. CXLVI.)—*β. stricta*; caulibus cæspitosis, strictissimis, simplicissimis, foliis acutioribus duplo brevioribus internodia æquantibus, radice fasciculata, hinc annulata.

Radix repens, crassa, nigra, absque annulis. *Caules* cæspitosi, æquales, laxi, spithamei, basi squamis involuti, teretes, sulcato-striati, simplices l. parce ramosi, ramis alternis flexuosis cauli similibus. *Internodia* uncialia, superiora paullum longiora. *Folia* infima squamæformia, ovata, obtusa, connato-vaginantia:

superiora sensim majora, ex basi cordata l. late ovata subrotunda l. rotundato-triangularia, obtusissima, 3-5nervia, margine ad lentem serrulata, horizontaliter patentia, summa flori approximata. *Flores* solitarii in apice caulis et ramorum immersi. *Calycis tubus* turbinatus, (4‴ longus,) membrana intracalycina formatus; lobi ejusdem fere longitudinis, foliacei, late ovati l. cordato-triangulares, basi supra incumbentes, obtusissimi, longiores dimidiam corollam æquantes. *Corolla* clavata, (unciam longa, dimidiam unciam lata.) *Lobi* ovato-oblongi, apice triangulari acuto, tubo triplo breviores, plica triangulari multifida acutissima duplo longiores. *Genitalia* dimidiam corollam æquantia. *Antheræ* juniores connatæ, demum liberæ, oblongæ, sagittatæ, incumbentes. *Germen* oblongo-lineare, apice longe attenuatum, stigmatibus revolutis. *Capsula* elliptico-oblonga. *Semina* triangularia, 3-carinata, oblonga, striato-asperiuscula, altero latere acuta.

Hab. Both forms occur at Mount Rainier, on the north-west coast. *Mr. Tolmie.*—The structure of the lowermost leaves is remarkable; they are commonly reduced to little scales, the opposite pairs of which are so far coherent as to form a loose vagina round the stem of three or four lines in length. I saw a similar abortion in *G. Pneumonanthe*, L., but the vagina did not proceed so far. The same peculiarity occurs in the following species.

Tab. CXLVI.—A. var. *β*. *Fig.* 1, Flower laid open:—*slightly magnified.*

9. *G. Menziesii* (Griseb.); caule erectiusculo, foliis abbreviatis oblongo-ellipticis obtusis margine lævibus, flore unico terminali sessili, calyce dimidiato utrinque latissimo, corollæ lobis cordato-dilatatis triangulari-acutis, plica brevi 2–3crenata, antheris liberis.

Radix crassa, apice squamosa. *Caulis* solitarius, simplicissimus, pedalis, striatus, inferne squamatus, superne foliosus. *Internodia* subæqualia, uncialia. *Folia* patentia, connata, ex basi subobliqua, semiovata, late ovalia, obtusa l. obtusiuscula, 3–5-nervia, (unciam longa, 8‴ lata.) *Vaginæ* calycinæ subæquales, late ovatæ l. ovato-oblongæ, apice hinc processibus viridibus (sepalorum rudimentis instructæ. *Corolla* uncialis, clavata, lobi ex basi transverse truncata dilatata, apice triangulari acuto, tubo duplo breviores, plica brevissima l. truncata crenulata. *Stigmata* elongata, revoluta. *Germen* oblongo-lineare.

Hab. North-West Coast. *Mr. Menzies.*—This plant is most like *G. platypetala*, from which it differs by the form of the leaves and of the corolla, the base of which runs to a point in this species, while it is very large in *G. platypetala*, and also by the form of the *lobi corollæ* and the *plica intermedia*, as is stated in the diagnosis.

10. *G. glauca* (Pall.); caule humili ascendente, foliis obovato-spathulatis glaucis margine lævisculis, floribus paucis terminalibus, calyce integro, corollæ pallide cæruleæ lobis ovatis obtusis plicam integram multo superantibus, antheris liberis, seminibus tenui ala cinctis. (Tab. CXLVII.)—*Pall. Ross.* 2. *p.* 104. *t.* 93. *f.* 2.—G. cæspitosa. *Graham, in Edinburgh Philos. Journ.*

Hab. In the Rocky Mountains. *Mr. Drummond.*—This does not differ at all from the Asiatic plant. The circumstance of the existence of this species in the Rocky Mountains, is a valuable contribution to the laws of the geographical distribution of the Gentians; the greater part of those species which adorn the short summer of the Arctic Zone being again to be met with in the similar climate of the higher mountains of lower latitudes. Many examples of this fact are known with regard to European species, but scarcely one among those of the new continent, all the numerous species of the Andes being confined to those latitudes. *G. glauca*, however, affords an instance of a similar distribution to that above quoted; Steller having detected it in Behring's Island, Pallas in Kamschatka, and Chamisso on both shores of Behring's Strait. Now, though the spot where Mr. Drummond found it, in the Rocky Mountains, lies under the same latitude with Kamschatka, it is not to be forgotten that the isothermal line declines there to the south.

Tab. CXLVII.—*Fig.* 1, Flower; *fig.* 2, the same laid open; *fig.* 3, capsule; *fig.* 4, seeds:—*magnified.*

Sectio II. Chondrophylla, *Bg.—Corolla plica intermedia aucta, eglandulosa, infundibuliformis. Stigmata distincta, revoluta. Capsula longe stipitata. Testa appressa, exalata. Folia margine cartilaginea.*

11. *G. prostrata* (Hk.); caule basi ramoso, ramis unifloris, foliis ovali-spathulatis recurvato-obtusatis margine lævibus apice muticis, calycis lobis ovato-lanceolatis erectis, plicis parvulis bifidis, capsula juniori elliptico-oblonga basi attenuata adulta basi ovata apice attenuata.—G. prostrata. *Hænk. in Jacq. Coll.* 2. *p.* 66. *t.* 17. *f.* 2. *Froel. p.* 75.—G. aquatica, *α. Froel. p.* 78? *ex descr.*—G. nutans. *Bg. in Mém. de l'Acad. de Moscou, v. 7. p.* 232. *t.* 11. *f.* 2. (*forma elongata flore nutante.*)

Hab. Rocky Mountains. *Drummond.* Bay of Good Hope, Russian America. *Chamisso.*—There are two forms of this species, both collected by Mr. Drummond,—one scarcely an inch long, with two or three branches, and quite identical with the *G. prostrata* of the German Alps,—the other three to six inches high, with many ascending branches of equal length, and the leaves more distant; besides, the flowers are larger, but they are not drooping in the specimens from the Rocky Mountains, as in those collected by Chamisso. The latter form is peculiar to North America, but by no means specifically distinct. This species is very similar to *G. humilis*, Stev. or *aquatica* of many authors, but it differs by the small bifid plicæ, the form of the fruit and the leaves, and a short style, the latter having no style, oblong-lanceolate leaves, an obovate capsule, and roundish plicæ, nearly as long as the lobes of the corolla. Some other species, which stand next to *G. humilis*, have been well analyzed by Mr. Bunge. *G. prostrata* has **been found by Mr. Darwin, at the Straits of Magellan!**

Sectio III. Tretorrhiza, *Ren.—Corolla plica intermedia bifida aucta, eglandulosa, hypocrateriformis. Stigmata distincta, revoluta. Capsula sessilis. Testa appressa exalata.—Herbæ perennes.*

12. *G. Douglasiana* (Bong.); caule a basi ramoso tenero, foliis ovalibus cordatisque margine læviusculis, calyce integro, corollæ albæ lobis oblongis obtusis tubo duplo brevioribus. (Tab. CXLVIII.) *Bongard, Veg. de Sitcha, p.* 38. *t.* 6.—*β. patens*, ovario obovato stiligero, caule altiori, ramis stricte patentibus nudiusculis subfastigiatis, corolla profundius partita, plica longiori. (Tab. CXLVIII. B.)—G. trichotoma. *Menz. mscr. in Herb. Hook.*

Hab. In swamps; abundant at Fort MacLoughlin, Millbank Sound, N.W. Coast. *Mr. Tolmie.* In the island of Sitcha. *Mr. Mertens.* β. in the marshes of the N.W.C. *Dr. Scouler, Mr. Menzies.* Near Fort Vancouver. *Mr. Garry.*—The dried plant has always a somewhat dirty yellow colour. The plate of Mr. Bongard, though representing with great precision the specimens which had been collected by the late Mr. Mertens, does not well express the appearance of the common form, as those specimens were not yet quite developed: the flowers are not so crowded; the internodia are longer; the branches elongated, rather feeble, and commonly one-flowered. As the fruit has not been seen by Mr. Bongard, I add the following notes to his description:—*Capsula* elliptico-oblonga, apice attenuata, compressa, superne marginata, corollam æquans. *Semina* nigra, oblonga, angulata, exalata, utrinque acuta, lævia, juniora pilosula, valvulæ utrique binis seriebus juxta suturas inserta.—The appearance of the variety β. is very singular, and the characters of its germen seem to be constant; but I sometimes saw a short distinct stylus also in the common form, and the shape of the leaves is quite identical.

Tab. CXLVIII.—A. var. α.—B. var. β.—*Fig.* 1, Flower; *fig.* 2, The same laid open.

Sectio IV. ARCTOPHILA.—*Corolla plica intermedia destituta, inter basin filamentorum glandulifera, infundibuliformis. Stigmata distincta, revoluta. Capsula sessilis. Semina globosa, exalata.—Herbæ annuæ. Glandulæ corollinæ hinc inde abortu desunt.*

13. *G. aurea* (L.); caule humili basi in ramos cauli similes diviso superne subsimplici, foliis septemnerviis, imis elliptico-oblongis basi attenuatis, caulinis late ovatis obtusiusculis, sepalis margine lævibus vix basi junctis inæqualibus versus apicem ampliatis corollam subæquantibus, corollæ 5-v. 4-fidæ albæ lobis ovato-lanceolatis cuspidatis setula terminatis tubum campanulatum sensim ampliatum subæquantibus.—*L. Sp. Pl.* 1. *p.* 331.—G. involucrata. ***Fries, in Act. Hafn.* 10. *t.* 1. *f.* 2. *A. B.***

HAB. Greenland. *Vahl, jun.*

14. *G. aleutica* (Cham. et Schlecht.); caule humili a basi ramoso, foliis obscure trinerviis, imis spathulatis, caulinis ovatis acutis, calycis lobis lineari-oblongis inæqualibus margine scabris tubum æquantibus, longioribus corollæ tubo subbrevioribus, corollæ 4-fidæ violaceæ lobis ovatis acutiusculis muticis (margine hinc setulosis) tubo campanulato sensim ampliato duplo brevioribus. *Cham. et Schlecht in Linnæa*, 1. *p.* 175.—G. Unalaschkensis. *Bg. in Nouv. Mém. de la Soc. de Moscou*, 1. *p.* 240. *t.* 9. *f.*2.

HAB. Unalaschka. *Chamisso.*

15. *G. arctophila* (Griseb.); caule humili basi in ramos cauli similes diviso superne simplici triflori, foliis obscure 3-nerviis, imis obovato-oblongis basi attenuatis, caulinis ovato-oblongis acutis, sepalis margine scaberrimis vix basi junctis inæqualibus, majoribus corolla tubo brevioribus, corollæ 4-fidæ cæruleæ lobis ovato-triangularibus basi superincumbentibus acutissimis setula terminatis (margine lævibus) tubo ex basi lata sensim æqualiter ampliato triplo brevioribus. (TAB. CXLIX.)—β. *densiflora;* floribus tribus terminalibus approximatis, foliis caulinis cordato-ovatis l. cordato-lanceolatis obtusiusculis, sepalis duobus maximis corollæ tubum æquantibus l. superantibus, minoribus anguste lanceolatis abbreviatis. (The colour of the flowers is, perhaps, also different, since all the corollæ of this variety have kept their bright blue, as the colour was stated by Mr. Drummond; while the specimens from the Arctic sea-coast have now whitish flowers, with a violet tint here and there.) **TAB. CXLIX. B.B.**

Radix tenuis, simplex, curve descendens. *Caulis* basi infra ramificationem foliis quibusdam rosulatus. rami inæquales, partim decumbentes, partim descendentes, medius plerumque major erectiusculus 2–3uncialis, minores unciales, omnes 3–(rarius 1) flori, unico pari foliorum instructi, teretiusculi. *Folia* ima obovato-oblonga obtusa l. elliptico-oblonga acutiuscula, margine ad lentem tenuissime serrulata, (6–8‴ longa, 3‴ lata;) caulina supra medium ramum sita, ovato-oblonga, sessilia, acuta, sæpe acutissima, (6–9‴ longa, 2–4‴ lata.) *Pedicelli* laterales ex axillis foliorum caulinorum 2–6‴ longi; *pedunculus* terminalis 8–12‴ longus, ebracteatus. *Calyx* fere ad basin divisus, sepalis foliis caulinis simillimis. *Corolla* fere uncialis, infundibuliformi-hypocrateriformis, tubo basi 2‴, apice 4‴ lato. *Filamenta* alata, basi latiora. *Antheræ* parvæ, oblongæ, violaceæ, incumbentes. *Ovarium* oblongo-lineare, stamina corollæque tubum æquans. *Stigmata* 2 oblongo-linearia, revoluta, ovario imposita, quam in ceteris *Arctophilis* longiora. *Capsula* oblongo-linearis, corollam marcescentem æquans, seminibus minutissimis fuscis applanatis lævibus exalatis in utraque valvula biserialibus.—Species ludit sepalis æqualibus; etiam scapis unifloris cæspitosis.

Hab. Arctic Sea-Coast. *Dr. Richardson.* β. Rocky Mountains. *Mr. Drummond.*—This affords another instance of the occurrence of the same species at the level of the sea in the north, as well as at a certain height in lower latitudes. It approaches nearly to *G. propinqua*, Rich., but it seems to differ constantly, since its exterior habit, and the manner of its ramification, is indeed anything but analogous. In Chamisso's specimens of the latter species, the lobes of the corolla are lanceolate, and not superincumbent, at their base; but, among that great series of specimens which have been collected on Capt. Franklin's expedition, are to be found flowers wholly similar to those of *G. arctophila*, differing, indeed, only in having their corolla always much slenderer and narrower at the base of its tube, as well as somewhat serrated at its lobes.

Tab. CXLIX.—A. var. α. B.B. var. β.—*Fig.* 1, Flower of β; *fig.* 2, The same laid open:—*magnified.*

16. *G. propinqua* (Rich.); caule gracili basi flagellifero superne subsimplici, foliis imis spathulatis, superioribus oblongo-lanceolatis lanceolatisque acutis, sepalis margine lævibus basi junctis valde inæqualibus, binis ovatis acutis tubum corollæ æquantibus, binis lanceolato-linearibus brevioribus, corollæ 4–(5?)-fidæ cæruleæ lobis ovato-lanceolatis acuminatissimis setula terminatis (margine hinc setulosis) tubo obconico fere duplo brevioribus. (Tab. CL.)—*Richardson in Narr. of a Journey by Frankl. p.* 734.—G. Rurikiana. *Cham. et Schlecht. in Linnæa,* 1. *p.* 176.—G. setiflora. *Bg. l. c. p.* 242. *t.* 9. *f.* 4.—β. *densiflora;* floribus terminalibus aggregatis a foliis floralibus involucratis, foliis caulinis ovato-oblongis obtusis, foliis radicalibus spathulatis rosulatis, flagellis erectiusculis foliosis apice densifloris caule dimidio minoribus, caule humiliori.

Hab. Alpine swamps in the Rocky Mountains (*Mr. Drummond*), together with the variety. Cumberland House to Bear Lake, and Bear Lake River. *Dr. Richardson.* Escholtz's Bay. *Chamisso.*—This species is chiefly characterised by a great many small branches or flagella, which rise from the axillæ of the radical leaves, and from the inferior ones of the stem. They are very slender, one or two inches long, commonly with one pair of leaves and one terminal flower, which is considerably smaller than the flowers of the stem. There are specimens with twenty such branchlets. This species grows along with *G. acuta*, Mich., some forms of which are so strikingly like this plant, that one would easily think them not specifically different, the more so as the beard of *G. acuta* sometimes almost totally disappears, and the existence of glands between the filaments in the section *Arctophila* is also variable. The cuspidate lobes of the corolla, however, afford a character which never fails.—The original specimens did not present a 5-cleft corolla; but this is a point of no value at all in this group of *Gentianæ*, and Chamisso's and Richardson's plants are quite the same. In the drawing of Mr. Bunge, the shape of the leaves, and of the lobes of the corolla, is not well given.—The variety β. is in fact so similar to *G. aleutica*, Cham., that it is impossible to distinguish them in any other way than by the calyx, the lobes of which are regular in the latter, and united in a tube half as long as themselves. Also, the leaves of the stem are still larger and more stem-clasping. It seems that the constancy of these characters is still to be proved by investigations on the spot. Transition forms between that variety and the common appearance of *G. propinqua*, Rich., are frequent.

Tab. CL.—*Fig.* 1, Flower; *fig.* 2, The same laid open:—*magnified.*

17. *G. quinqueflora* (Lam.); caule vegeto a basi ramoso, ramis oppositis, foliis imis obovato-linearibus paucis, ceteris cordato-ovatis (acutissimis) 5–7 nerviis, calycis corolla quadruplo brevioris lobis subulatis æqualibus margine scabriusculis tubum æquantibus, corollæ 5 fidæ cæruleæ lobis triangularibus acutissimis setula terminatis (margine lævibus) tubo

obconico quadruplo brevioribus.—*Lam. Encycl.* 2. *p.* 643. *Bot. Mag. t.* 3496.—G. quinquefolia. *L. Sp.* 1. *p.* 333.—G. amarelloides. *Mich.* 1. *p.* 177. *Pursh*, 1. *p.* 186.

Hab. Canada. *Mrs. Percival.*—The specimens differ somewhat from the common form, in having blunt leaves and a divaricating infloresence.

18. *G. tenuis* (Griseb.); caule stricto subsimplici, foliis linearibus obtusis (mucronatis), sepalis margine scaberrimis basi vix junctis inæqualibus longioribus tubum corollæ æquantibus, corollæ 4-fidæ albidæ (?) lobis oblongis obtusissimis mucronulatis tubo cylindrico duplo brevioribus. (Tab. CLI.)

Radix tenuis, descendens, ramosa. *Caulis* spithameus l. pedalis, strictissimus, subsimplex, teretiusculus, a basi ad apicem æqualiter foliosus, basi rubicundus. *Internodia* ima semiuncialia, cetera uncialia, hinc sesquiuncialia. *Folia* exacte linearia, basi latiuscula, apice rotundato mucronulato, l. cuspidato, l. acuminato, obsolete trinervia, margine ad lentem creberrime serrulata, obscure viridia, basi connato-amplexantia, (unciam longa, 1–1½‴ lata.) *Flores* tenues, parvi, in àxillis superioribus subsessiles, erecto-appressi: terminalis longius pedicellatus. *Sepala* lanceolata, acuminata. *Corolla* sicca albida, infundibuliformi-hypocrateriformis, (5‴ longa, 1½–2‴ lata.) *Glandulæ* inter basin filamentorum. *Capilli* hinc 3–5 tenues in lobis corollæ. *Genitalia* tubum æquantia. *Antheræ* rotundæ, incumbentes. *Germen* ellipticum, stigmatibus parvulis vix revolutis. *Capsula—?*

Hab. At the Mackenzie River. Cumberland House to Bear Lake. *Dr. Richardson.*—There is no species of the least analogy with this in the group of *Arctophilæ*, the appearance being exactly that of *G. Amarella*, or *G. acuta;* but as glands occur between the filaments, which have not been observed in the group of *Endotrichæ*, and on the other hand, as there is seldom a trace of a beard in the corolla, it will be more convenient to bring this species into this group, although it must be observed that it unites most naturally with that of *G. Amarella*. Besides, it differs from the latter by the peculiar form of the leaves, and of the lobes of the corolla.

Tab. CLI.—*Fig.* 1, Flower; *fig.* 2, Pistil:—*magnified.*

Sectio V. Endotricha, *Bg.*—*Corolla plica intermedia destituta, eglandulosa, hypocrateriformis, corona fimbriarum aucta. Stigmata distincta, revoluta. Capsula sessilis. Semina globosa, exalata.—Herbæ annuæ.*

19. *G. tenella* (Fries); caule basi ramoso, ramis nudis elongatis unifloris, sepalis obtusis duobus majoribus, corollæ 4-fidæ tubo cylindrico lobos subæquante.—*Fries, in Act. Hafn.* 10. *p.* 436.—G. glacialis. *Thom. App. Vill. Delph.* 1. *App.* 532.—G. dichotoma. *Pall. Ross.* 2. *p.* 110.—G. borealis. *Bg. l. c. p.* 257. *t.* 10. *f.* 2.

Hab. At Behring Strait, on the shore of the sea at Kotzebue's Sound. *Chamisso.*—This form is a foot high, and very straight; the sepala are almost as long as the corolla: on which differences Mr. Bunge established his *G. borealis.* But the same appearance occurs not only in Norway, but sometimes also in the Alps, and there is no constancy in these characters.

20. *G. acuta* (Mich.); caule gracili erecto ramoso, foliis connato-vaginantibus, inferioribus oblongo-spathulatis, superioribus oblongo-lanceolatis acutissimis, calyce subæquali corollam dimidiam vix æquante.—*Mich. Bor. Am.* 1. *p.* 177.—G. plebeja. *Bg. l. c. p.* 250. *t.* 9. *f.* 5.—G. Amarella. *Richards. in Narrat. l. c.*—*β. stricta*, caule 2–4 pedali, racemis axillaribus strictis elongatis erectis, calyce inæquali, foliis æqualibus, floribus siccis flavescentibus.

Hab. *α.* and *β.* Canada to the Rocky Mountains and Slave Lake. *Michaux, Dr. Richardson, Douglas, Drummond.*—The common appearance is much more slender than in the drawing of Mr. Bunge, the leaves are narrower and the branches shorter; but the same form as that from Unalaschka occurs also in the Rocky Mountains.

This species is extremely like our *G. Amarella;* it seems, however, to differ constantly in the way the leaves embrace the stem. In *G. Amarella* the lamina of the two leaves ends at that point where they are affixed to the stem, so that they are separated from each other by an interstice formed by the stem; while in *G. acuta* the bases of both leaves touch each other without any interstice, so that the substance of the leaves itself is somewhat connate: this character seems to be invariable throughout all those numerous forms in which these species are so rich; the upper leaves of *G. acuta* are, besides, always longer and more acute, and the leaves near the root are more or less spathulate, while in *G. Amarella* the leaves are always more equal in the same individual; the beard of *G. acuta* is longer and thinner, so as to disappear almost wholly here and there; the flowers are somewhat smaller; the calyx is shorter and more unequal; the stem more angular, and commonly almost winged. Besides, most of its forms are much stiffer, taller, and more branched; the stem often produces such slender and numerous branchlets from the under axillæ as has been mentioned above of *G. propinqua.*—*G. acuta*, Nutt., which has been doubtfully referred to *G. campestris*, certainly is the species of Michaux, which seems the only one of *Endotrichæ* widely dispersed through the northern parts of the new continent, and the varieties of which are as manifold as those of *G. Amarella.*

Sectio VI. Crossopetalum, *Froel.—Corollæ, plica intermedia destitutæ, glandulis inter basin filamentorum auctæ, lobi cum tubo continui l. expansi margine fimbriati. Stigmata lata orbiculata distincta. Capsula stipitata l. basi attenuata. Testa exalata aculeis mollibus tecta (l. rarius lævis.)—Herbæ annuæ et perennes.*

21. *G. detonsa* (Fries.); caule stricto, pedunculis superne nudis, foliis oblongo-lanceolatis linearibusque basi attenuatis, corollæ lobis tubum subæquantibus oblongis rotundatis margine versus apicem serratis medio ciliato-pectinatis basi integerrimis, seminibus aculeatis.—*Fries, in Act. Hafn. l. c. t.* 1. *f.* 3.—G. brachypetala. *Bg. l. c. p.* 225. *t.* 11. *f.* 3. (*specimen defloratum.*)—G. ciliata. *Gunn. Norv.* 2. *p.* 88. *t.* 2. *f.* 3–5.—G. serrata. *Gunn.* 2. *p.* 101. (*forma cor.* 5-*fida.*) *Fl. Dan.* 317.—*β. barbata*, radice bienni, caule erecto ramoso, foliis caulinis longissime acuminatis, corolla duplo majori, stigmatibus ovario obovato impositis (in planta sibirica; in americana plerumque ovarium ellipticum et stylus conspicuus.)—G. barbata. *Froel. p.* 114. *Sims, Bot. Mag. t.* 639.—G. ciliata. *Pall. Ross.* 2. *t.* 92. *f.* 2.—*γ. simplex*, radice bienni, caule simplici unifloro gracillimo superne nudo, corolla ut in *β.*, foliis imis lineari-spathulatis, superioribus linearibus. G. barbata, simplex. *Bg. l. c. p.* 224. *t.* 9. *f.* 1.—G. intermedia. *Richards. ms.*

Hab. Huron Lake. *Dr. Todd.* Slave Lake, passing into *β.* *Dr. Richardson.* Edmonton House to Carlton House on the Saskatchawan. *Mr. Drummond.* Arctic sea-shore. *Dr. Richardson.*—*β.* Canada. *Mrs. Percival, Mr. Sheppard.* Huron Lake. *Dr. Todd.* Banks of the Maitland River. *Mr. Js. Macnab.* Cumberland House to Bear Lake. *Dr. Richardson.* Saskatchawan and Rocky Mountains,—with forms passing into *α.* and *β.* *Mr. Drummond.*—The name given by Fries is the oldest one for this polymorphous species: the variety, which has been nicely drawn by Mr. Bunge, proving that there are no certain limits between *G. barbata*, Froel. of the Altai, and *G. detonsa*, Fries, of the Arctic Zone and Lapland. This was the more clearly shown by the large collection of American specimens which I have been able to examine:

even the shape of the ovarium, which I considered before to afford constant characters, is here not less fallible than the regularity or irregularity of the calyx, as well as the large size of the flower. It seems to depend upon the nature of the locality, whether the root be biennial or annual.—The American *G. barbata* differs somewhat from the Altaic form, by the lower leaves being more blunt, and by having a distinct style and nearly equal calyx. Though these characters are by no means constant, one may form, on these grounds, an American variety; but we find, here and there, specimens which are quite identical with some Siberian ones: besides, the variety β. occurs in both countries.

22. *G. crinita* (Froel.); caule stricto multifloro folioso, foliis cordato-lanceolatis, pedunculis superne nudis elongatis, corollæ lobis oblongis rotundatis margine fimbriatis, fimbriis deorsum longioribus basi loborum nullis, ovario ovato-lanceolato, seminibus aculeolatis. *Froel. p.* 112. *Pursh*, 1. *p.* 188. *Beck*, *p.* 240. *Bot. Mag. t.* 2031.—G. fimbriata. *Andr. Bot. Repos. t.* 509.—G. ciliata, Americana. *L.*

Hab. Canada. *Mr. Goldie.*—This is widely dispersed throughout the United States.

23. *G. ventricosa* (Griseb.); caule stricto gracili, foliis caulinis ovato-oblongis obtusis, calyce inæquali alato ventricoso corollam involvente, corollæ lobis æqualiter crenato-fimbriatis. (Tab. CLII.)

Radix annua, tenuis, ramosa. *Caulis* pedalis, strictus, glaber, teres, striatus, præter ramos quosdam inæquales unifloros secundos simplex, superne gracilis. *Internodia* ima uncialia, cetera sensim longiora, 2–3-uncialia. *Folia* margine ad lentem tenuissime scabrida, ima rosulata obovato-subrotunda l. obovato-oblonga, in petiolum attenuata, (4–6‴ longa,) caulina ovato-oblonga obtusa, (unciam longa, 4‴–6‴ lata.) *Rami* pedunculares, flexuosi, simplices, uno pari foliorum a flore remoto instructi; *pedunculus* terminalis 1 florus, ebracteatus, (3–4 uncialis.) *Calyx* clausus, ovoideus, (9‴ longus, 4–5‴ latus,) acuminatus, corollam tertia parte superans, lobis tubum æquantibus, binis lanceolatis acuminatissimis longe mucronatis, binis ovatis acuminatis paullo minoribus latius alatis (alæ per sepala, cetera per scariosam membranam intracalycinam formantur.) *Corolla* inclusa, convoluta, 4-fida, lobis ovato-oblongis, tubum sensim ampliatum æquantibus, elegantissime æqualiter crenato-fimbriatis, obtusis. *Filamenta* brevissima (1–2‴ longa,) lata, membranacea, sub apice tubi inserta. *Antheræ* ex tubo exsertæ, introrsæ, loculis basi distantibus extrorsum connectivo membranaceo cum filamento contiguo junctis. *Ovarium* elliptico-oblongum, stamina paullum superans, *stylo* nullo, *stigmatibus* orbiculatis 2-lamellatis. *Capsula* ignota.

Hab. Grand Rapids of the Saskatchawan. Between Cumberland House and Hudson's Bay. *Drummond.*—One of the most remarkable species: the appearance is exactly like *G. utriculosa*, but from the structure of the flower, it is nearest *G. detonsa.*

Tab. CLII.—*Fig.* 1, Flower; *fig.* 2, Corolla; *fig.* 3, Corolla laid open; *figs.* 4, 5, Back and front view of a stamen; *fig.* 6, Section of a calyx:—*magnified.*

2. PLEUROGYNE. Eschscholz. ap. Cham. *Linnæa*, 1. *p.* 190.

Foveæ epipetalæ glanduliferæ 0. *Filamenta* basi æqualia. *Stigmata* lateralia (ad suturas valvularum decurrentia.) *Capsula* unilocularis. *Corolla* rotata, corona fimbriarum brevissima aucta.

1. *P. rotata* (L. sub *Swertia*); foliis lanceolatis linearibusque, calycis lobis lanceolato-linearibus corollam æquantibus, ovario acuto, seminibus suturæ valvularum insertis.—*L. Sp. Pl.* 1. *p.* 328. *Pallas*, 2. *p.* 98. (*excl. synon. et fig. III.*) *t.* 89. *f.* 1. 2.—Gentiana rotata. *Froel. p.* 105. *ex descriptione* (*exclus. synon. et var.* β.)—Swertia sulcata. *Fries, l. c.*

p. 438. *t.* 1. *f.* 4.—γ. *Americana*, caule humili fastigiato-ramosissimo, ramis 1–3-floris, foliis oblongo-linearibus obtusis, imis rosulatis.

Hab. Between Cumberland House and Hudson's Bay. *Drummond.* Kotzebue Sound. *Captain Beechey.* Eschscholtz Sound. *Mr. Von Chamisso;* γ. Labrador. *Dr. Morison.*—The variety β. grows in the Altai. See an account of the confusion of synonyms of this species in Chamisso and Schlechtendal (*Linnæa* 1. *p.* 188.) where they have stated all points with their usual exactness.—The *Swertiæ* of Mr. Pursh are quite doubtful; his *Swertia pusilla* is certainly *Sw. Stelleriana*, Cham. Schlecht.—another species of *Pleurogyne*, which I do not consider specifically distinct from *Sw. Carinthiaca*, Wulf; Mr. Pursh states that he has seen specimens of it from Labrador in the Banksian herbarium, but as the variety γ. of *Pl. rotata* is indeed very similar to it, I did not deem it convenient to follow his statement, not having seen specimens from that country. There are specimens of our plant scarcely an inch high, the sepala being sometimes larger than in the common form; *Pleurogyne Stelleriana* differs from them only by its blunt ovarium, broader leaves, shorter sepala, and the insertion of the seeds being analogous to *Gentiana*.

3. SWERTIA. L.

Foveæ epipetalæ glanduliferæ, fimbriis cinctæ. *Stigma* terminale, ovario impositum, continuum, reniforme. *Capsula* unilocularis, seminibus indefinitis valvulis affixis. *Corolla* rotata pentamera absque corona.

1. *Sw. perennis* (L.); caule basi ascendente, petalis elliptico-oblongis coriaceis sepala lanceolata duplo superantibus, foveis binis, fimbriarum cristis distinctis, seminibus alatis.—*L. Sp. Pl.* 1. *p.* 328. *Engl. Bot. t.* 1441. *Jacq. Austr.* 3. *t.* 243.—β. *obtusa;* petalis latioribus obtusioribus, foliis radicalibus obtusioribus, caulinis plerisque alternis.

Hab. β. N.W. Coast. *Mr. Menzies.*—There is no difference from the Altaic form. I have examined the same variety collected at Konigsberg, and its characters are not constant.—*Swertia fastigiata*, Pursh, may be another species of this genus: it seems, however, more probable that it is a *Frasera*, as Mr Pursh refers the genus to *Tetrandria*.

4. FRASERA. *Walt.*

Foveæ epipetalæ glanduliferæ fimbriis cinctæ. *Stigmata* distincta, stylo imposita. *Capsula* unilocularis, compressa, seminibus subdefinitis magnis alatis, valvularum suturæ affixis. *Corolla* rotata decidua tetramera.

1. *F. Carolinensis* (Walt.); caule erecto tereti glabro, foliis oppositis verticillatisque oblongo-lanceolatis, racemo elongato densifloro, calyce corolla longiore, fovea orbiculari solitaria.—(*Walt. Car. p.* 87. *Torrey, p.* 187.—F. Walteri. *Mich. Am. v.* 1. *p.* 97. *Pursh, v.* 1. *p.* 101. *Ell. Car. v.* 1. *p.* 205.—F. verticillata. *Muhl. Cat.*)

Hab. Shores of the Columbia. *Douglas.*—[*Hook.*]

2. *F. speciosa* (Dougl. ms.); caule erecto tereti sulcato glabro, foliis quaternis oblongo-linearibus acutiusculis, racemo elongato densifloro, calyce corollam æquante, foveis elliptico-oblongis binis. (Tab. CLIII.)

Radix perennis, pollicem crassa, apice comosa, etiam foliorum vaginis tecta, partim emortuorum nigrescentibus. *Caulis* strictus plurimum orgyarum, inferne digitum crassus, dense foliosus, simplex, superne in racemum pedalem abiens, (siccus cum tota planta flavidus.) *Internodia* caulis 2–3 uncialia, axis racemi

1½-uncialia. *Folia* radicalia semipedalia, unciam dimidiam lata, in latum petiolum attenuata, acuminata, acutiuscula, 7–9 nervia, glabra, caulina quaterna, connato-vaginantia, 4 uncias longa, *floralia* sensim minora, summa sesquiuncialia. *Inflorescentia* racemosa, verticillastris distinctis composita: *pedunculi* communes quaterni, axillares, unciales, apice cyma umbellæformi bibracteata terminati, flore centrali longius pedicellato internodium axis superante: eodem modo caulis summus terminatur, pedicello ultimo 1½–2-unciali, ebracteato. *Sepala* 4 linearia, acuminata, obtusiuscula, vix basi juncta, 9‴ longa. *Petala* oblongo-elliptica, obtusa, albida, apice punctata, erecta, basi barbata, fimbriarum cristis foveas cingentibus longis pectinatis. *Filamenta* basi in annulum brevem connexa et abrupte arcuato-dilatata, demum connectivi apici inserta. *Antheræ* introrsæ, loculis oblongis connectivo duplo longioribus, obcordatæ. *Ovarium* ovale stylum tenue superans, stigmate breviter bilobo. *Capsula—?*

Hab. On the low hills near Spokan and Salmon Rivers and subalpine parts of the Blue Mountains, near the Kooskooska River, N.W.C. *Douglas.*—[This is quite distinct from the preceding, much larger in every part, with longer petals and constantly 2 oblong foveæ upon each of them.—*Hook.*]

Tab. CLIII.—*Fig.* 1, Flower; *fig.* 2, Petal:—*magnified.*

3. *Frasera albicaulis* (Dougl. ms. sub *Swertia*); caule ascendente tereti pilis albidis brevissimis scabrido, foliis oppositis linearibus obtusis, racemo densifloro, calyce corollam æquante, fovea neari unica. (Tab. CLIV.)

Radix perennis, foliorum emarcidorum vaginis tecta. *Caulis* ex basi ascendente stricte erectus, pedalis, simplex, foliis paucis et apice racemo denso instructus. *Internodia* 4–8-uncialia, præter inflorescentiam plerumque in toto caule bina. *Folia* elongato-linearia, nervosa, pilis quam in caule brevioribus densioribusque subalbescentia, alte connato-vaginantia, *radicalia* duo 3–4-uncialia, 3–4‴ lata, *caulina* 3-uncialia patula, *floralia* minora, paucissima ex inflorescentia exserta. *Inflorescentia* racemiformis, ex verticillastris 2–4 approximatis cymaque densa umbellæformi terminali constituta, accedente hinc verticillastro in sequentibus axillis, 4 uncias remotis; *pedunculi* verticillastrorum communes, plerumque in utraque axilla bini, alter semiuncialis densa umbellula terminatus, alter minor pauciflorus: pedicellis brevibus confertis, centrali longiori. *Sepala* linearia, acuminata, sublibera. *Petala* 3–4‴ longa, cærulea, oblongo-lanceolata, acuminata, uninervia, fovea dimidium petalum æquante, crista fimbriarum brevi ad basin petali producta. *Filamenta* tenuia; *antheræ* ad indolem præcedentis speciei. *Ovarium* oblongo-ellipticum, apice attenuatum, *stylum* tenuem æquans, stigmate breviter bilobo. *Ovula* oblonga, alata, pauca, (suturis affixa.) *Caps.?*

Hab. In the Mountain Vallies between Spokan and Kettle Falls, in moist soil. *Mr. Douglas.*

Tab. CLIV.—*Fig.* 1, Flower; *fig.* 2, Petal; *fig.* 3, Stamen; *fig.* 4, Pistil:—*magnified.*

5. HALENIA. *Borkh.*

Petala basi calcarata, glandulis fundo calcarum impositis. *Stigmata* terminalia. *Capsula* unilocularis, seminibus indefinitis suturis valvularum affixis. *Corolla* breviter campanulata.

1. *H. deflexa* (Sm. sub *Swertia*); caule erecto folioso, foliis 3–5 nerviis, radicalibus oblongo-spathulatis in petiolum æque longum attenuatis caulinis oblongo-lanceolatis acutis subsessilibus, calcaribus cylindricis obtusis curvo-descendentibus corolla duplo brevioribus. (Tab. CLV.)—Swertia corniculata. *Mich. Am.* 1. *p.* 97.—Sw. Michauxiana. *R. S.* 6. *p.* 130.—Sw. Americana. *Spreng. Syst.* 1. *p.* 861.

Hab. Spencer Wood, Canada. *Mrs. Percival, Mr. Sheppard.* Norway House to Canada. *Dr. Richardson, Drummond.* Lake Huron. *Dr. Todd.* Rocky Mountains. *Drummond.*—This species is very nearly allied to *H. Sibirica*, Borkh.; and since both vary much in the form of their leaves as well as in

their ramification, their characters require much to be explained. *H. deflexa* differt: caule vegetiori, strictiori, magis virente, alato nec angulato; ramis aut abbreviatis aut elongatis strictis, nec laxis patulis apice cernuis; foliis majoribus, plerumque latioribus, imis confertis obovatis longe petiolatis læte virentibus, nec ellipticis parvulis, sub anthesi jam emarcidis; calcaribus corolla duplo brevioribus curvo-descendentibus, demum curvo-subascendentibus crassiusculis, nec corollam æquantibus stricte patentibus dentibuspue piliformibus.

Tab. CLV.—*Fig.* 1, Flower; *fig.* 2, Stamen; *fig.* 3, Pistil; *fig.* 4, Capsule; *fig.* 5, Section of do.; *fig.* 6, Seed; *fig.* 7, Section of do.; *fig.* 8, Embryo:—*magnified.*

2. *H. Brentoniana* (Griseb.): caule humili erectiusculo diffuse ramoso, foliis 3–5-nerviis ellipțico-oblongis acuminatissimis in petiolum attenuatis, summis subsessilibus oblongo-lanceolatis, cyma terminali umbellæformi 3-flora, flore centrali longius pedicellato, calcaribus crassiusculis obtusis curvo-descendentibus l. subhorizontalibus corolla brevioribus. (Tab. CLVI. A.)

Radix curvo-descendens, annua. *Caulis* triuncialis, obsolete tetrapterus, glaber, siccus obscure cæruleo-viridescens. *Rami* erecto-patentes, cauli similes. *Internodia* inferiora brevissima, superiora 4–6–8‴ longa. *Folia* patentissima 1–1½‴ longa, 4–8‴ lata, glabra, subinæqualia, ima longius petiolata, spathulato-oblonga, acuta, media elliptico-oblonga, acutissima, subsessilia, floralia minora. *Pedicelli* breviusculi, verticillastris accedentibus cum cyma terminali et cum inflorescentia ramorum confluentibus. *Sepala* 4 oblongo-lanceolata, acutissima, corollam dimidiam æquantia. *Corolla* campanulata-cylindrica, (5‴ alta et lata,) lobis ovato-triangularibus acutis erectis tubum æquantibus. *Calcara* corolla fere duplo breviora. *Antheræ* flavæ, parvulæ, nutantes. *Ovarium* ovato-oblongum acutum, *stylo* nullo, *stigmatibus* vix distinguendis.

Hab. Newfoundland. *Miss Brenton, Dr. Morrison.*

Tab. CLVI. A.—*Fig.* 1, Flower:—*magnified.*

3. *H. heterantha* (Griseb.); caule humili erectiusculo ramoso, foliis 5-nerviis, imis spathulatis petiolatis, superioribus ovato-subrotundis subsessilibus apice rotundatis apiculatis, floribus confertis, calcare tenui corolla triplo breviori, floribus inferioribus ecalcaratis. (Tab. CLVI. B.)

Radix curvo-descendens, annua. *Caulis* 4-uncialis, in ramos æquales plerosque oppositos divisus, ascendenti-erectus, glaber, teretiusculus l. alis binis ex foliis decurrentibus tenuibus fere anceps. *Internodia* inæqualia, ima 4‴ longa, media uncialia, suprema semiuncialia. *Folia* ad lentem serrulata, æqualia, (8‴ longa, 6‴ lata,) sed inferiora longius petiolata, obtusiora. *Cyma* terminalis umbellæformis 5-flora, pedicellis inæqualibus 1–4 linearibus, cui accedunt verticillastra 2–6-flora. *Sepala* 4 ovato-oblonga, acuminata, juniora recurvata, corollam dimidiam æquantia. *Corolla* ochroleuca, breviter campanulata, lobis ovato-triangularibus acutis erectis 2–3‴ longis tubum rotundatum æquantibus; *calcar* oblique descendens rectiusculum; *flores* ecalcarati minores. *Antheræ* globulosæ parvulæ, filamenti latitudinem subæquantes. *Ovarium* ovale, stigmatibus sessilibus erectis brevibus connatis. *Capsula* corollam marcescentem fere duplo excedens, elliptico-oblonga. *Semina* magna, albida, globosa, lævissima, (suturæ affixa.)

Hab. Newfoundland. *Miss Brenton.*—This is a most remarkable species, on account of the absence of the calcara in the lower flowers, which are also much smaller, at the same time that the branches are more slender, on the top of which these flowers are crowded. This abortion, however, affords no reason to doubt of the constancy of the generic characters of *Halenia*, since the genus is as well limited by the structure of its ovarium and by the insertion of its seeds, as by its spurs; also, the form of the corolla itself is constantly different from *Swertia*.

Tab. CLVI. B.—*Fig.* 1, Flower:—*magnified.*

Tribus II. ERYTHRACACEÆ.—*Inflorescentia dichotoma, caule per florem alarem dichotomiæ terminato. Sepala sublibera. Antheræ sæpe spirales, rima loculorum sursum dehiscente* (Chironieis *rima loculorum deorsum dehiscens, hinc abbreviata, plerumque utriusque loculi contigua.*) *Stylus distinctus deciduus* (*raro* 0), *stigmate variabili. Capsula unilocularis l. marginibus introflexis semibilocularis, placentis suturalibus, l. placenta centrali bilocularis.* —*Corolla rubra, alba, l. flava, eglandulosa, infundibuliformis, demum supra capsulam torta, l. decidua. Herbæ pleræque annuæ, per totum terrarum orbem dispersæ, in temperatis australioribus utriusque hemisphæræ frequentiores.*

6. CICENDIA. *Adans.*

Corolla regularis, 4-fida. *Antheræ* immutatæ. *Stigma* indivisum. *Capsula* unilocularis l. semibilocularis.

1. *C. exaltata* (Griseb.); caule ascendente, stricte ramoso, foliis lanceolato-linearibus, corollæ tubo gracili lobos oblongos obtusos æquante, stylo nullo, capsula semibilocularis. (TAB. CLVII. A.)

Radix annua. *Caulis* spithameus, glaber, obsolete tetragonus l. alis duabus tenuissime fere anceps, gracilis, basi ascendens, stricte dichotome ramosus. *Internodia* 1–2 uncialia. *Inflorescentia* quater dichotoma, pedicellis alaribus nudis internodia subæquantibus. *Folia* caulina lanceolato-linearia, acuminata, internodiis duplo breviora, superiora minora, omnia nervosa, basi 1–1½‴ lata, nervo medio subtus conspicuo decurrente. *Folia* 2 floralia sub quavis ramificatione cymæ, pedicellis ebracteatis. *Corolla* infundibuliformis, tubo curvo gracili. *Calyx* corollæ tubo subbrevior, lobis ovato-oblongis acutis inæqualibus tubum subæquantibus. *Filamenta* brevia, tubo supra medium inserta, antheris oblongis erectis, loculis connectivum æquantibus demum patentibus crispatis (nec spiraliter tortis.) *Ovarium* ovato-oblongum, obtusum, stigmate vix distinguendo. *Capsula* oblongo-linearis, calyce duplo longior, badia, inferne corollæ emarcidæ vestigiis vestita. *Semina* minutissima, rotunda, badia.

HAB. Near mountain springs and streams, not uncommon between the Kettle Falls, "and Narrows" of the Columbia River, N.W.C. *Douglas.*—It differs somewhat from the genus, and even from the tribe, by the absence of any style: but, besides the characters taken from the flower, the *Erythracaceæ* are so well marked by their inflorescence, that I am of opinion the present would be the most convenient place for this species. I have seen only one specimen, which was already in a very advanced state. *Exacum pulchellum*, Pursh, which I have not yet obtained, may be another North American species of this genus, with which *Orthostemon*, Br., may perhaps be not improperly joined, as it seems to differ only by its stigma, the characters of which are at least variable in *Erythræa* and *Canscora.*

TAB. CLVII. A.—Cicendia exalata.

Tribus III. CHLOREÆ.—*Inflorescentia dichotoma. Corolla eglandulosa, rotata, demum circa capsulam marcescens. Antherarum loculi distincti. Stylus distinctus, deciduus, stigmate variabili. Capsula unilocularis l. semibilocularis.*—*Herbæ pleræque annuæ, Europæ et Americæ incolæ, Europearum floribus plerumque flavis, Americanarum sæpius roseis.*

7. SABBATIA. *Adans.*

Flos 5 (–12)-merus. *Antheræ* erectæ, demum recurvæ. *Stigmata* bicruria, demum spiraliter torta. *Capsula* unilocularis, valvulis parum introflexis.

1. *S. gracilis* (Salisb.); caule teretiusculo effuse paniculato, ramis alternis, foliis linear-

bus inferioribus ovatis lanceolatisque, calycis corollam fere æquantis tubo brevissimo, lobis subulatis, corollæ 5-fidæ roseæ lobis elliptico-oblongis obtusis.—Chironia campanulata. *L. sp.* 1. *p.* 272. *Willd!*—Ch. gracilis. *Mich. Am.* 1. 146.—Sabbatia gracilis. *Salisb. Paradis. Londin. t.* 32. *Pursh*, 1. *p.* 137.—S. campanulata. *Torrey.*

Hab. Canada. *Willd. herb.*—The specimens originate probably from Mühlenberg, but lately botanists seem not to have met with it in British North America. *S. paniculata*, Ell., is very near, and it differs especially by a very short calyx and white flowers, both characters of not much value in *Sabbatia:* besides, however, the filaments of the latter and the leaves are shorter: the inferior ones more blunt.

2. *S. angularis*; caule tetragono paniculato, ramis oppositis, foliis cordato-ovatis basi connatis obtusis, calycis tubo brevi, lobis lanceolatis acutis corolla brevioribus, corollæ roseæ 5-fidæ lobis obovato-ellipticis obtusis.—Chironia angularis. *L. sp.* 1. 272. *Mich.* 1. *p.* 146.—Sabbatia angularis. *Pursh*, 1. *p.* 137.

Hab. Canada. *Mr. Goldie.*—The leaves are sometimes smaller and longer, as well as the lobes of the corolla. There occur also white-flowered specimens.

Tribus IV. Menyanthideæ.—*Æstivatio corollæ induplicativa. Capsula unilocularis. Corolla apparatu glanduloso instructa, decidua.*

8. MENYANTHES. *L.*

Semina in nervo medio utriusque valvulæ 1-serialia. *Capsula* juxta suturam valvularum ruptilis.

1. *M. trifoliata*; foliis ternatis.—*L. Sp. Pl.* 1. *p.* 208. *Engl. Bot. t.* 495.

Hab. Canada. *Mrs. Percival, Mr. Cleghorn, Mr. Sheppard.* Newfoundland. *Miss Brenton, Dr. Morrison.* Labrador. *Miss Brenton.* Lake Winnipeg and Saskatchawan. *Dr. Richardson.* Rocky Mountains. *Mr. Drummond.* North West Coast. *Dr. Scouler.* Sitcha. *Mr. Mertens.*

9. VILLARSIA. *Vent.*

Placentæ suturales. *Capsula* 2-valvis, valvis demum bifidis.

1. *V. Crista galli* (Menz. sub *Menyanthide*); scapo elato, foliis late reniformibus crenatis emarginatis a petiolo distinctis, floribus paucis congestis.—*Hook. bot. misc.* 1. *p.* 45. *t.* 24. *Bongard Vég. de Sitcha. p.* 38.

Hab. Port Edgecombe. *Mr. Menzies.* Sitcha. *Mr. Mertens.*

2. *V. pumila* (Dougl. sub *Menyanthide*); scapis humilibus unifloris, foliis elliptico-oblongis integerrimis obtusis in petiolum attenuatis. (Tab. CLVII. B.)

Rhizoma repens, crassiusculum, radices filiformes tenuissimas simplices deorsum emittens, apice hinc divisum petiolorumque vaginis alternis tectum. *Petioli* unciales, erecti, tenues. *Folia* 1–1½ uncias longa, semiunciam lata, subrepanda, nervo medio subtus conspicuo cum petiolo confluente. *Scapi* erecti, tenuissimi, 1–2 unciales. "*Flores* albi, venis rubris, fimbriis flavis." *Dougl.* *Calyx* ebracteatus, tubum corollæ subæquans, lobis oblongis obtusis tubo calycino duplo longioribus. *Corolla* rotata, aperta, tubo infundibulari lobis ovalibus duplo brevioribus; faux corollæ cum basi loborum fimbriata. *Antheræ* subglobosæ, incumbentes. *Ovarium* basi glandulis minutis cinctum, pubescentia pilosa undique tectum, ovatum, stylum æquans; *stigmata* linearia, patentia, 2‴ longa. *Ovula* minutissima suturis affixa? *Capsula—?*

Hab. Common near springs and on marshy ground in the Vallies of the Rocky Mountains, between Kettle Falls and Spokan. *Douglas.*—Not having seen the fruit, it is still doubtful to me whether this be really a *Villarsia*, or perhaps a *Menyanthes*, as, in the dried germen it is indeed difficult to make out where the ovula are attached. But from the calyx-leaves, as well as from a great analogy of structure with *V. ovata*, Vent., it will be more convenient to refer it to this genus.

Tab. CLVII. B.—*Fig.* 1, Corolla laid open; *fig.* 2, Stamen; *fig.* 3, Calyx and pistil; *fig.* 4, Germen laid open; *fig.* 5, ovules:—*magnified.*

10. LIMNANTHEMUM. *Gmel.*

Placentæ suturales. *Capsula* evalvis, demum maceratione aperta.—Folia *natantia.* Petala *fugitiva.*

1. *L. lacunosum* (Vent. sub *Villarsia*); foliis supra asperiusculis subtus spongioso-asperrimis, corolla alba glabra nuda, glandulis epipetalis breviter stipitatis, stylo brevi crasso, calyce capsulam vix æquante, seminibus muricatis ecarinatis.—Menyanthes trachysperma. *Mich.* 1. *p.* 126*? an hujus forma macrophylla?*

Hab. Norway House to Canada. *Drummond, Dr. Richardson.*—The germination of this plant is quite analogous to that of *Trapa natans*, so remarkable on that account. On the top of each branch there arise three groups of different organs—viz. on one side, a leaf; on the other, the umbel of flowers; and below, a great many thick, short, and simple radicles, each of which is able to produce a new plant: the latter organs are, in *Trapa*, analogous to those which De Candolle took for stipulæ, but which Rœper has declared to be a sort of root—a theory which is fully proved by the present case.

Ord. LX. POLEMONIACEÆ. *Juss.*

1. POLEMONIUM. *L.*

Cal. 5-fidus, persistens, laciniis acutis. *Cor.* campanulata rotata, 5-partita, fundo clausa valvis 5 staminiferis, limbo plano, laciniis rotundatis. *Filamenta* basi dilatata. *Capsula* ovato-trigona, trivalvis. *Semina* plurima angulosa.

1. *P. cæruleum;* erectum, foliis pinnatis plurifoliolatis, floribus erectis.—*L.*—*α. vulgare;* caule solitario elato, foliolis majoribus, floribus paniculato-racemosis speciosis. *P. cæruleum.* Auct.—*β. humile;* caule solitario 2–3 unciali ad spithamæam, foliolis minoribus, floribus corymbosis speciosis. P. cæruleum, nanum. *Hook. Spitz. Pl. in Linn. Trans. v.* 14.—P. humile. *Willd. Herb. ex Rœm. et Sch. p.* 311. *Lindl. Bot. Reg. t.* 1304.—P. Richardsoni. *Grah. in Bot. Mag. t.* 2800. *Hook. et Arn. in Bot. of Beech. Voy. p.* 128.—P. speciosum. *Fisch. ms. in Herb. Nostr.*—P. villosum, *ex Don, in Sw. Br. Fl. Gard. t.* 266.—P. lanatum. *Fisch. in Herb. Nostr.*—P. cæruleum, *var.* piliferum. *Lindl. in Bot. Reg. t.* 1303.—P. pulchellum. *Bunge, in Herb. Nostr.* (e mont. Altaic).—P. cæruleum, formæ 2, 3, 4, 5, et 6. *Chamisso, in Herb. Nostr.*—P. moschatum. *Wormsk. in Herb. Nostr.*—*γ. pulcherrimum;* caulibus aggregatis humilibus gracilibus, foliolis parvis, floribus corymbosis duplo triplove minoribus, laciniis subacutis. P. pulcherrimum. *Hook. in Bot. Mag. t.* 2979.—P. acutiflorum. *Willd. Herb. ex R. et. S. Syst. Veg. v.* 4. *p.* 792.

Hab. *α.* Canada (*Mr. Sheppard*) to the bases of the Rocky Mountains (*Drummond*) and Arctic Coast.

Dr. Richardson.—β. and γ. From lat. 66°. to the Arctic sea-coast, in deep sand, both in the north (*Dr. Richardson*), and in N.W. America, Kamstchatka, &c. *Menzies, Chamisso, Langsdorff, Lay, and Collie.*—Few plants are more variable, and few more extensively distributed in the temperate and colder regions of the northern hemisphere, than the present; from Kamoon and Kolghur, in Northern India, to Spitzbergen and the Arctic sea-shores of Europe, Asia, and America. I have long hesitated whether or not I should consider the var. γ. as distinct from the true *cæruleum*, but I fear it presents no valid points of difference. The species is met with of all sizes, in all states of hairiness, and with all sizes of the flower. In specimens from poor Douglas's last communications, are some from New Albion, which I would refer to var. γ., but with the corolla shorter than the calyx! In another specimen from the same country, with the habit and flowers of *pulcherrimum*, the leaflets are as large as in the common state of *P. cæruleum*, and as acute, or nearly so, as those of Dr. Wallich's specimens from India.

2. PHLOX. *L.*

Cal. 5-fidus, subcylindricus, persistens, laciniis angustis. *Cor.* hypocrateriformis, tubo cylindrico. *Stam.* inæqualia tubo inserta. *Antheræ* sagittatæ. *Stigma* trifidum. *Capsula* ovato-triangularis, trivalvis, loculis submonospermis.

1. *P. maculata;* tota glabra, caule erecto maculato, foliis lanceolatis superioribus ovatis longe acuminatis sessilibus margine scabriusculo, paniculæ oblongæ ramis confertis abbreviatis, dentibus calycinis breviusculis erectis acutis, corollæ laciniis rotundatis.—*Jacq. Hort. Vind. t.* 127. *Pursh, Am. v.* 1. *p.* 149. *Torrey, v.* 1. *p.* 228.—P. paniculata. *Ait.*

Hab. Upper Canada? *Mr. Sheppard.*—The specimen from Mr. Sheppard is certainly the *P. maculata* of American authors, but I do not see how it is to be distinguished from *P. paniculata* of the *Hort. Kew.*

2. *P. divaricata;* decumbens, pubescens, ramis divaricatis laxis paucifloris, foliis ovato-lanceolatis supremis alternis, dentibus calycinis subulatis, corollæ laciniis obcordatis.—*L.*—*Bot. Mag. t.* 163. *Mich. Am. v.* 1. *p.* 144. *Ph. Am. v.* 1. *p.* 150. *Elliott, Carol. v.* 1. *p.* 248. *Torrey, p.* 229.

Hab. Canada. *Mrs. Percival.*

3. *P. speciosa;* erecta ramosa frutescens, glabra, foliis linearibus acuminatis pungentibus basi dilatatis subciliatis margine callosis: supremis alternis, floribus corymbosis, sepalis acuminatis margine membranaceis tubo corollæ subæqualibus, laciniis corollæ cuneato-oblongis integris. *Lindl.—Ph. Am. v.* 1. *p.* 149. *Lindl. Bot. Reg. t.* 1351.—β. caule foliisque pubescentibus.—P. humilis. *Dougl. ms.*—γ. *elatior;* caule foliisque glaberrimis.—P. Sabini. *Dougl. ms.*

Hab. α. N.W. America. Plains of the Columbia. *Lewis, Douglas.*—β. Subalpine range of the Rocky Mountains near perpetual snow, and on the Blue Mountains, N.W. Am.—γ. Limestone Rocks of the Blue Mountains. *Douglas.*—In deference to the opinion of Professor Lindley, I retain this as a species; but I must confess it borders too closely on *P. subulata*, and that again I have elsewhere observed, (*Comp. to the Bot. Mag. v.* 1. *p.* 172.) I am totally unable to distinguish from *P. setacea*, to which belongs *P. nivalis*, Lodd and Sweet. Dr. Lindley has already noticed its affinity with our next species, *P. Sibirica*, L., which indeed is very close, and probably they might all be safely considered as belonging to one and the same species. The leaves in this latter, however, are more flaccid, the lower ones are constantly marcescent, and the corymbs are fewer flowered.

4. *P. Sibirica;* humilis perennis basi suffruticosa, foliis linearibus subflaccidis mucronatis villosis, inferioribus marcescentibus, pedunculis subternis, calycis lanati laciniis subulatis tubum corollæ subæquantibus, corollæ laciniis cuneatis integris vel emarginatis.—*L.*—*Gmel. Sibir.* 4. *p.* 87. *t.* 46. *f.* 2. *Hook. et Arn. in Bot. of Beech. Voy. v.* 1. *p.* 128.

Hab. Kotzebue's Sound. *Lay and Collie.*—These specimens, from Captain Beechey's Voyage, differ in no respect whatever from the numerous Siberian and Dahurian ones in my herbarium, and from others gathered by Redowski, probably also on the American side of Behring's Strait. Besides the differences alluded to under the preceding species, this is certainly less shrubby than *P. speciosa* and its more immediate allies. The old marcescent leaves are numerous, and peculiarly flaccid and waved.

5. *P. Douglasii;* humilis pubescens dense cæspitosa basi fruticosa lignosa, ramis numerosissimis erectis, foliis arctis subulatis rigidis erecto-patentibus mucronatis inferioribus marcescentibus strictis albidis, floribus terminalibus solitariis subsessilibus, calycis villosi laciniis subulatis rigidis mucronatis corollæ tubo brevioribus, corollæ laciniis obovatis obtusis. (Tab. CLVIII.)—*β.* foliis subsquarrosis.

Hab. N.W. America: common on the limestone range of the Blue Mountains, and on the Rocky Mountains, near the confines of snow. *Douglas.*—A most beautiful species, bearing copious and almost sessile blossoms, and intermediate in habit, as it were connecting the *P. speciosa, subulata,* &c. with the little *P. Hoodii.*

Tab. CLVIII.—*Fig.* 1, Flower; *fig.* 2, Leaves:—*magnified.*

6. *P. Hookeri;* fruticosa, ramis alternis elongatis pubescentibus dense foliosis, foliis fasciculatis subulato-acicularibus rigidis pungentibus inferioribus marcescentibus albidis, floribus numerosis sessilibus terminalibus lateralibusque, calycis laciniis acicularibus corollæ tubo gracili elongato brevioribus. (Tab. CLIX.)—P. Hookeri. *Dougl. ms. apud Hort. Soc. Lond.*

Hab. Common on arid, sandy, and rocky soils near the narrows of the Oakangan and Priest's Rapid of the Columbia. "Flowers bright yellow!"—A very singular and most distinct species.

Tab. CLIX.—*Fig.* 1, Flower; *fig.* 2, Leaves:—*magnified.*

7. *P. Hoodii;* nana multicaulis densissime cæspitosa, foliis arcte imbricatis erectis argenteo-nitidis subulatis mucronatis rigidiusculis margine lanatis inferioribus marcescentibus albidis, floribus terminalibus sessilibus solitariis, calycis lanati laciniis lato-subulatis brevibus tubo corollæ brevioribus, corollæ laciniis obovatis integris.—*Richards. in Frankl. Journ. App. ed.* 2. *p.* 6. *t.* 28.

Hab. Sandy plains, Carlton House Fort, and other places in lat. 54°. (*Dr. Richardson*) to the Rocky Mountains. *Drummond.* Eagle and Red Deer Hills on the Saskatchawan, abundant. *Douglas.*—"This beautiful species is a striking ornament to the plains in the neighbourhood of Carlton House, forming large patches, which are conspicuous from a distance. The specific name is a small tribute to the memory of my lamented friend and companion, whose genius, had his life been spared, would have raised him to a conspicuous station in his profession, and rendered him an ornament to any science in which he might have chosen to direct his attention." *Richards. l. c.*

8. *P. Richardsoni;* nana multicaulis densissime cæspitosa, foliis arcte imbricatis erecto-subincurvis carnosiusculis laxe lanatis oblongo-lanceolatis obtusis cum mucrone marginibus

insigniter plicato-reflexis, inferioribus marcescentibus demum nigrescentibus, calycis lanati laciniis lato-subulatis mucronatis tubo corollæ brevioribus, corollæ laciniis rotundato-cuneatis integris. (TAB. CLX.)

HAB. Arctic sea-coast, July, Aug., 1826. *Dr. Richardson.*—Flowers most abundant, and of a brilliant lilac colour. It must be allowed that Dr. Richardson, and Messrs. Drummond and Douglas, have been pre-eminently successful in discovering new and beautiful species of the Genus *Phlox* in N. America, especially if we take into account the *P. Drummondii* (from the southern extremity of that vast country), which is now the pride and ornament of our gardens. It is much to be lamented that these more hardy species from the north have not yet been introduced alive to our collections; for there is no doubt, from the rich variety in the colour of their blossoms, and the great quantity of flowers yielded by every little tuft, that they would be nearly, if not quite, as ornamental as *P. Drummondii.*

TAB. CLX.—*Fig.* 1, Flower; *fig.* 2, Leaves:—*magnified.*

3. GILIA. *Cav.*

Cal. campanulatus, 5-fidus, margine et sinubus membranaceis. *Cor.* infundibuliformis v. subcampanulata, limbo 5-partito, laciniis obovatis integris. *Stam.* ad faucem v. vix intra tubum inserta. *Antheræ* ovato-subrotundæ. *Capsulæ* loculi polyspermi. *Benth. in Bot. Reg. sub t.* 1622.

1. *G.* (SECT. Dactylophyllum) *pharnaceoides;* foliis oppositis basi membrana connatis profunde palmato-partitis laciniis setaceis, corollis calyce duplo longioribus. (TAB. CLXI.) *Benth. l. c.*

HAB. Sandy soils at Oakanagunca and Wallawallah, rather rare: flowers white, delicate. *Douglas.*—Mr. Douglas afterwards saw this curious species (and another of the same section) more abundantly in California. They and the *G. pusilla* have the habit of *Arenaria*, as observed by Mr. Bentham: perhaps still more that of *Spergula.*

TAB. CLXI.—*Fig.* 1, Flower; *fig.* 2, Leaves:—*magnified.*

2. *G.* (Sect. Ipomopsis) *pulchella;* caulibus strictis superne paniculatis, foliis carnosis arachnoideis pinnatifidis laciniis remotis linearibus planis acutis, corollis elongatis tubulosis limbi patenti-reflexi laciniis ovato-lanceolatis.—*Dougl. ms.*—*Benth. l. c.*—Ipomopsis elegans. *Lindl. Bot. Reg. t.* 1281. (*excl. Syn. Sm. Mich. et. Pers.*)

HAB. Banks of the Spokan River, N.W. America, particularly near its junction with the Columbia. *Douglas.*—A tall and very handsome plant, but which, we fear, is now lost to our gardens. Mr. Bentham has well distinguished it from the *Gilia coronopifolia*, Pers. (*Ipomopsis elegans*, Sm.) which is a native of the southern United States.

3. *G.* (Sect. Eugilia) *inconspicua;* caule gracili paniculato-ramoso calycibusque pubescenti-glandulosis, foliis pinnatifidis inferioribus bipinnatifidis laciniis linearibus remotis, floribus subsolitariis, calyce corollæ tubum æquante, corollæ laciniis ovatis.—*Dougl. in Hook. Bot. Mag. t.* 2883. *Benth. l. c.*—G. parviflora. *Spr.*—Ipomopsis inconspicua. *Sm. Ex. Fl. t.* 14.—Cantua parviflora. *Ph. Am. v.* 2. *p.* 730.

HAB. Southern branches of the Columbia, growing under the shade of *Purshia tridentata*, and various species of *Artemisia. Douglas.*

4. *G.* (Sect. Eugilia) *capitata;* glabra, gracilis ramosa, foliis bi-tripinnatifidis segmentis linearibus acutis, floribus dense capitatis, calyce tubo corollæ breviore, corollæ laciniis linearibus.—*Hook. Bot. Mag. t.* 2698. *Lindl. Bot. Reg. t.* 1170. *Benth. l. c.*

Hab. N.W. America; Rocky Mountains to the Pacific, following the course of the Columbia. Frequent in potato fields about Fort Vancouver. *Douglas, Dr. Scouler.*

5. *G.* (Sect. Eugilia) *congesta;* lanata subsimplex, foliis bipinnatifidis carnosis laciniis linearibus obtusis, floribus (albis) densissime capitatis capitulis racemosis, calycibus 5-dentatis bracteisque dense lanatis.—Phacelia furcata. *Dougl. ms.*

Hab. Sandy plains of the Columbia. *Douglas.*—A span high, with a rather stout stem, and singularly fleshy leaves. The whole, especially the very dense capitula, is very woolly. Corolla white, with a yellow eye. *Douglas.* Germen obovato-trigonous. Stigma 3-fid.

4. NAVARETIA. R. et P.—Ægochloa. *Benth.*

Cal. tubulosa-campanulatus, basi membranaceus, apice 5-fidus, laciniis inæqualibus rigidis, integris multifidisve, spinosis. *Cor.* hypocrateriformis calycem subæquans, limbo 5-partito, laciniis oblongis integris. *Stam.* inter partem superiorem tubi inserta. *Antheræ* ovato-subrotundæ. *Caps.* loculi polyspermi.—Herbæ *plerumque glutinosæ fætidæ.* Folia *pinnatisecta, segmentis incisis acutissimis.* Flores *dense capitati, bracteis inciso-multifidis spinosis suffulti. Benth. l. c.*

1. *N. intertexta;* erecta ramosa, foliis glabris pinnatisectis, segmentis lineari-subulatis acutissimis incisis divaricatis subspinosis, calycis sublanati dentibus plerumque multifidis, corollis calyce subbrevioribus, staminibus exsertis. *Benth. l. c.* (sub Ægochloa.)

Hab. New Albion, N.W. America. *Douglas.*

2. *N. pungens;* viscoso-pubescens, foliis pinnatisectis segmentis integris incisisve, laciniis lanceolato-linearibus acutissimis spinosis, bracteis ciliato-hirtis basi dilatatis, dentibus calycinis lanceolatis subintegris, corollis exsertis, staminibus tubo inclusis. *Benth. l. c.* (sub Ægochloa.)—Gilia pungens. *Dougl. in Hook. Bot. Mag. t.* 2977.

Hab. Mountain Vallies near the sources of the Multnomack, a southern tributary of the Columbia, N.W. Am. *Douglas.*

5. COLLOMIA. *Nutt.*

Cal. campanulatus 5-fidus v. sub-5-partitus, lobis lanceolatis linearibusve æqualibus integris. *Cor.* hypocrateriformis, tubo tenui exserto, limbo patente 5-partito, laciniis oblongis integris. *Stam.* versus medium tubi inserta. *Antheræ* ovato-subrotundæ. *Caps.* loculi 1–2 spermi.—Herbæ. Flores *dense capitati, bracteis late ovatis integerrimis suffulti. Benth. l. c.*

1. *C. heterophylla;* pubescens, caule erecto ramoso, foliis inferioribus pinnatifidis incisis superne sensim magis integris, involucris omnino integris, capitulis paucifloris. *Dougl. in Hook. Bot. Mag. t.* 2895. *Lindl. Bot. Reg. t.* 1347. *Benth. l. c.*

Hab. Frequent on the subalpine hills of N.W. Am., and about Fort Vancouver. *Douglas, Dr. Scouler.*

2. *C. grandiflora;* foliis lato-lanceolatis nitidis inferioribus sæpissime serratis glabris superioribus ramisque junioribus pubescentibus, capitulis viscosis, corollæ limbo obliquo erectiusculo tubum subæquante.—*Dougl. in Bot. Reg. t.* 1174. *Hook. Bot. Mag. t.* 2894. *Benth. l. c.*

Hab. Columbia River, N.W. America, from the source in the Rocky Mountains to the mouth. *Douglas, Dr. Scouler.*

3. *C. linearis;* foliis lineari-lanceolatis lato-lanceolatisve opacis plerumque glabris, ramis superioribus patentissimis pubescentibus, corollæ limbo patente tubo gracilimo triplo breviore.—*Nutt. Gen. v.* 1. *p.* 126. *Dougl. in Bot. Reg. t.* 1166. *Hook. Bot. Mag. t.* 2893. *Benth. l. c.*

Hab. From the Saskatchawan to Fort Franklin and the Rocky Mountains. *Dr. Richardson, Drummond.* From Lake Winipeg, across the Rocky Mountains, to Menzies' Island in the Columbia, thirty miles from the Pacific. *Drummond, Douglas, Scouler.*

4. *C. gracilis;* glanduloso-pubescens, caule valde ramoso, foliis lineari-oblongis obtusis inferioribus oppositis, calycis 5-partiti laciniis longe subulatis tubum corollæ æquantibus. *Dougl. ms.*—*Benth. l. c.*—Gilia gracilis. *Hook. Bot. Mag. t.* 2924.—*β. humilior;* foliis inferioribus latioribus.—Collomia humilis and C. bellidifolia. *Dougl. ms.*

Hab. N.W. America, Vallies of the Mountains near the Kettle Falls, and *β.* Fort Vancouver, and at the Multnomack. *Douglas.*

Ord. LXI. DIAPENSIACEÆ. *Lindl.*

1. DIAPENSIA. *L.*

Cal. 5-partitus, 3-bracteatus. *Cor.* 1-petala, regularis, æstivatione imbricata. *Stam.* 5 æqualia, filamentis dilatatis ad summum tubi corollæ insertis, limbi laciniis alternis; antheris 2-locularibus transversim dehiscentibus ecalcaratis. *Stigma* sessile. *Capsula* cartilaginea, 3-locularis, infra medium trivalvis, medio placentifera, dissepimentis e medio valvarum. *Semina* plurima minuta, areolata.—Suffrutices *arctici, humiles, cæspitosi, prostrati.* Folia *parva imbricata sempervirentia.*

1. *D. Lapponica. L.*—*Torrey, Fl. v.* 1. *p.* 231. *Hook. in Parry's 2d. Voy. App.*.—D. obtusifolia. *Salisb. Parad. Lond. t.* 104. *Pursh, Am. v.* 1. *p.* 147.

Hab. Labrador. *Dr. Morison, Miss Brenton.* Whale Island, Arctic America. *Captain Sir E. Parry.* Mouth of the Great Fish River. *Capt. Back.*—This does not appear to exist on the Pacific side of the Rocky Mountains, nor further to the west than the Great Fish River. The only station in the United States is the White Hills of New Hampshire, whence I have received it from Dr. Boott and Mr. Greene.

Ord. LXII. CONVOLVULACEÆ. *Juss.*

1. CONVOLVULUS. *Jacq. Br.*

Cal. 5-partitus, nudus, v. bracteis 2 minoribus imbricatis. *Corolla* campanulata, 5-

plicata. *Stamina* limbo breviora. *Ovarium* 2-loculare (raro 3-loculare?) loculis dispermis. *Stylus* indivisus. *Stigmata* 2, filiformia. *Capsula* valvata.—Herbæ (*raro* frutices) ***volubiles v. prostratæ, sæpius lactescentes. Br.***

1. *C. arvensis;* caule angulato-striato, foliis sagittatis subauriculatis, pedunculis sæpius unifloris apice bibracteatis, sepalis ovato-rotundatis, corolla alba aut rosea. *Chois.—L.—* ***Pursh, Am. v. 1. p. 144. Torrey, v. 1. p. 224.***

Hab. Canada. ***Mrs. Percival, Lady Dalhousie.***

2. *C. panduratus;* volubilis pubescens, foliis lato-cordatis integris lobatisve panduriformibus, pedunculis longis, floribus fasciculatis, calycibus glabris muticis, corollis tubulato-campanulatis. ***Mich. Am. v. 1. p. 138. Ph. Am. v. 1. p. 144. Elliott, v. 1. p. 254. Torrey, Fl. v. 1. p. 225.***

Hab. Canada. ***Pursh.***

2. CALYSTEGIA. *Br.*

Cal. 5-partitus, bracteis duabus foliaceis inclusus. *Cor.* campanulata, 5-plicata. *Stam.* subæqualia limbo breviora. *Ovarium* semibiloculare, 4-spermum. *Stylus* indivisus. *Stigmata* 2 obtusa (teretia v. globosa). *Capsula* unilocularis.—Herbæ *lactescentes, glabræ, volubiles v. prostratæ* (*extra tropicum provenientes*). Pedunculi *solitarii uniflori. Br.*

1. *C. sepium;* foliis sagittatis acutissimis posticis obtusis truncatisve integris, bracteis acutis calyce longioribus dimidio corollæ brevioribus, pedunculo angulato petiolum superante. *Br.—Ph. v. 1. p. 142.*—Convolvulus sepium. *L.—Torrey, v. 1. p. 225.*—C. repens. ***L.—Mich.—Ell.***

Hab. Canada to the Saskatchawan, ***Pursh, Dr. Todd, Dr. Richardson;*** and to the Rocky Mountains. ***Drummond.*** Shores and Islands of the Columbia. ***Dr. Scouler, Dr. Gairdner.***

2. *C. spithamæus;* pubescenti-tomentosa, caule erecto, foliis oblongo-ovatis basi cordatis, pedunculis unifloris folio longioribus, bracteis ovatis acutis, laciniis calycinis lanceolatis.—***Ph. Am. v. 1. p. 143. Hook. Ex. Fl. v. 1. t. 97.***—C. tomentosa. ***Ph. l. c.***—Convolvulus spithamæus. ***L.—Elliott, v. 1. p. 251. Torrey, Fl. v. 1. p. 225.***—C. stans. *Mx.*

Hab. Canada to the Saskatchawan. ***Mr. Cleghorn, Mrs. Percival, Dr. Richardson, Drummond.***

3. CUSCUTA. *L.*

Cal. raro 4-fidus. *Cor.* globoso-urceolata, limbo 5-fido, marcescens. *Ovarium* 2-loculare, loculis dispermis. *Caps.* bilocularis, circumscissa.—Herbæ *aphyllæ, volubiles, parasiticæ.* Flores *aggregati, subcapitati v. spicati, unibracteati.* Squamæ 5, *epipetalæ, infra filamenta, iisdemque oppositæ, raro deficientes. Br.*

1. *C. Americana?* floribus pedicellatis globoso-campanulatis 5-fidis, filamentis subulatis, corollæ laciniis brevioribus infra basin squama fimbriata, stylis gracilibus exsertis.—*L.?—Ph.?—Mich.?—Torrey, Fl. v. 1. p. 289.*—C. arvensis. ***Beyrich, in Herb. Nostr.***

Hab. N.W. America. ***Douglas.***—This I believe to be the ***C. Americana*** of Dr. Torrey. The flowers though small, are larger than in our ***C. Epithymum.***

2. *C. umbrosa;* floribus sessilibus campanulatis 5-fidis, filamentis subulatis corollæ laciniis longioribus infra basin squama fimbriata, stylis brevibus crassis inclusis.—C. umbrosa. *Beyrich, in Herb. Nostr.*—C. Europæa. *Torrey, v.* 1. *p.* 230?—C. Americana. *Griswold, in Herb. Nostr.*

Hab. Canada. *Mrs. Percival.* Norway House Fort? *Drummond.* N.W. Coast of America. *Douglas.*—The *Cuscutæ*, both of the old and the new world, are in a sadly confused state. The present species is probably frequently called by the American authors *C. Americana.* Of this, I am certain, that it is the *C. umbrosa* of Beyrich (whose name I therefore adopt), and the *C. Americana* of Dr. Griswold: but whether it is the Linnæan plant of that name, I have no means of ascertaining. Mr. Drummond's specimens are too imperfect for determination. The flowers of the present species are larger than either of our two British ones.

Ord. LXIII. HYDROPHYLLEÆ.* *Br.*

(*Br. in Prodr. Flor. Nov. Holland. p.* 492. *Benth. in Linn. Trans. v.* 17. *p.* 272.)

1. HYDROPHYLLUM. *L.*

Cal. 5-partitus persistens. *Cor.* campanulata 5-fida, intus striis 5 melliferis marginatis filamenta amplexantibus. *Stam.* exserta, medio barbata. *Stig.* bifidum. *Caps.* globosa, 1-locularis, 1-sperma; *seminibus* tribus abortivis.

1. *H. virginicum;* foliis pinnatifidis, laciniis ovali-lanceolatis inciso-serratis, fasciculis florum conglomeratis, pedunculis petiolo longioribus.—*L.*—*Mich. Am. v.* 1. *p.* 134. *Ph. v.* 1. *p.* 134. *Bot. Reg. t.* 331. *Elliott, v.* 1. *p.* 232. *Torrey, Fl. v.* 1. *p.* 219.

Hab. Canada. *Mrs. Percival, Mrs. Sheppard, Dr. Holmes.* N.W. Coast of America. *Dr. Scouler,* who observes that the roots are eaten by the Indians.

2. *H. appendiculatum;* foliis infimis pinnatisectis, caulinis palmato-lobatis, racemis laxissimis, calycis hispidi sinubus reflexo-appendiculatis. (*Benth. l.c. p.* 273.)—*Mich. Am. v.* 1. *p.* 134.

Hab. Canada. *Cleghorn.* [*H.*]

3. *H. Canadense;* foliis palmato-lobatis angulatisve, florum cymis laxis, calycibus glabris. (*Benth. l. c. p.* 273.) *L.*—*Mich. Am. v.* 1. *p.* 133. *Ph. v.* 1. *p.* 134. *Torrey, v.* 1. *p.* 220.

Hab. Canada. *Pursh.*

4. *H. capitatum;* foliis pinnatisectis, segmentis inciso-dentatis, laciniis calycinis lanceolatis ciliato-hispidis. (*Benth. l. c. p.* 273.) *Dougl. ms.*

Hab. Fort Vancouver. *Douglas.*—This is very different from the *H. macrophyllum* of Nuttall, of which I have noble specimens from Dr. Short.—[*H.*]

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* The characters, with remarks on the genera and species of this and the following order (*Borragineæ*), have been kindly drawn up for this work by Dr. Lehmann. I have only added a few species which have since been received by me from British N. America, and made a few alterations suggested by Mr. Bentham's valuable paper on the first of these two orders, lately published in the Linnæan Transactions.

2. EUTOCA. *Br.*

Cal. 5-partitus, persistens. *Cor.* subcampanulata: membranulæ tubi decem, par paria filamentis alternantes. *Stam.* exserta. *Stylus* bifidus. *Caps.* polysperma, unilocularis, bivalvis, valvis indivisis medio placentiferis.

1. *E. Franklinii;* foliis pinnatifidis bipinnatifidisve pilosis, laciniis lanceolatis integerrimis dentatisve ciliatis, spicis racemosis in summo caule confertis, staminibus corolla sublongioribus.—*Br. in Richards. App. to Frankl. Journ. ed.* 2. *p.* 51. *t.* 27. *Hook. Bot. Mag. t.* 2985.

Hab. From the Saskatchawan to the Bear Lake and English Rivers. *Dr. Richardson;* and in burnt woods from the Grand Rapid to the Rocky Mountains. *Drummond.*

2. *E. sericea;* foliis pinnatifidis semibipinnatifidisque sericeis, laciniis lanceolatis integerrimis, racemis in summo caule confertis, staminibus corolla duplo longioribus. *Lehm.*—*Grah. in Bot. Mag. t.* 3003. *Benth. l. c. p.* 278.—E. pulchella. *Lehm. in Pugil. Pl. II. p.* 18.

Hab. Sandy debris of the Rocky Mountains. *Drummond.*

3. *E. Menziesii;* erecta foliis linearibus lanceolatisve integerrimis quandoque trifidis pinnatifidisve, placentis 20-multiovulatis. (*Benth.*) *Br. in Richards. App. to Frankl. Journ. ed.* 2. *p.* 51. *Benth. l. c.*—E. multiflora. *Dougl. in Bot. Reg. t.* 1180. *Lehm. l. c. p.* 19.—E. echioides et. E. glomerata. *Dougl. ms.* (*fide Benth.*)—E. congesta. *Dougl. in Herb. Nostr.*—*Lehm. l. c. p.* 18.—Hydrophyllum lineare? *Ph.* (*Br.*)

Hab. First discovered in California by *Mr. Menzies* (*Herb. Nostr*). Interior of the Columbia, N.W. Am. *Douglas.*—Dr. Lehmann, whom I was able to supply only with imperfect specimens of this species, was disposed to separate them into two: but I feel assured that Mr. Bentham has done correctly, in reducing all the supposed species of Mr. Douglas to one, which is indeed very variable in the form of the leaves. [*H.*]

3. NEMOPHILA. *Bart.*

Cal. persistens 10-partitus laciniis alternis minoribus reflexis. *Cor.* campanulata 5-loba. *Nectarium,* foveolæ 10 ad marginem faucis. *Stamina* corolla breviora. *Stylus* bifidus. *Caps.* 1-locularis.

1. *N. parviflora* (Dougl.); foliis pinnatifidis lobis paucis latis subdentatis, calycis sinubus breviter appendiculatis, corollis calycem vix superantibus, placentis biovulatis. *Benth. l. c. p.* 275.

Hab. First found in California by *Mr. Menzies.* Banks of the Columbia. *Douglas, Scouler.*—Perhaps not really distinct from the following, which Mr. Bentham thus characterizes:—"*N. pedunculata;* foliis pinnatifidis, calycis sinubus breviter appendiculatis, corollis calycem vix superantibus, placentis 6-ovulatis." [*H.*]

2. *N. pedunculata* (Dougl.); caule dichotomo ramoso, foliis subpinnatifido-quinquelobis pilosis: lobis obtusis, pedunculis alaribus solitariis nutantibus.

Caulis herbaceus, succulentus, procumbens? retrorsum setoso-hispidus, dichotomo-ramosus, ramis divaricatis. *Folia* opposita, petiolata, remota, pinnatifida, 5-loba, adpresse-pilosa, reticulato-venosa: lobis obovatis integerrimis vel grosse dentatis. *Petioli* foliis dimidio breviores, setosi. *Pedunculi* alares, solitarii, teretes, filiformes, retrorsum setoso-hispidi, subpolicares, nutantes. *Calyx* persistens 10-partitus: laciniis setoso-ciliatis, alteris majoribus erectis, lanceolatis, acutis; alteris minoribus, linearibus, reflexis. *Corolla* minuta longitudine calycis, 5-loba: lobis integerrimis. *Stamina* corolla breviora; *filamenta* tubo inserta glabra: *antheris* lanatis. *Capsula* magnitudine pisi, ovata, acuta, pubescens.

Hab. Columbia River, N.W. America. *Douglas.*

4. PHACELIA. *Mx.*

Cal. 5-partitus. *Cor.* subcampanulata 5-fida basi intus 5-sulcata. *Stamina* exserta. *Stylus* filiformis bipartitus. *Caps.* 4-sperma 2-valvis: valvula singula dissepimento dimidiata.

1. *P. heterophylla;* erecta hispida, foliis inferioribus petiolatis pinnatifidis laciniis lanceolatis integerrimis nervosis: impari elongata, superioribus simplicibus, racemis bifidis densifloris, laciniis corollæ integerrimis. *Ph. Am. v.* 1. *p.* 140. *Nutt. Gen. v.* 1. *p.* 117. *Rœm. et Schult. Syst. Veget. v.* 4. *p.* 189.

Hab. Banks and Islands of the Columbia, near the ocean. *Dr. Scouler, Douglas.*—Mr. Bentham unites this (and no doubt the following) with the *P. circinata,* Jacq. Fil. Ecl. 1. 135. t. 91; and adduces the following synonyms:—Heliotropium pinnatum. *Vahl.* Hydrophyllum Magellanicum. *Lam.* H. aldea. *R. and S.* Aldea pinnata. *R. and P.* A. circinata. *Willd.* Phacelia Peruviana. *Spr.* P. Californica. *Cham.* P. rudis. *Dougl. ms.*

2. *P. hastata* (Dougl.); erecta tomentosa, foliis petiolatis lineatis acutis: radicalibus lineari-lanceolatis, caulinis lanceolatis elongatis basi utrinque auriculatis, racemis terminalibus corymbosis bifidis, laciniis corollæ integerrimis.

Caulis subpedalis, herbaceus, teres, erectus, simplex, tomentosus, basi rudimentis petiolorum tectus. *Folia* petiolata, supra tomentosa, tomentum pilis rigidis adpressis intermixtum, nervis impressis parallelo-lineata, subtus tomentosa, ad nervos protuberantes adpresse pilosa; *radicalia* lineari-lanceolata in petiolum elongata, acuta, integerrima; *caulina* elongato-lanceolata, basi auriculata, ita quidem ut fere hastata appareant. *Petioli* canaliculati, hispidi, foliorum inferiorum circiter pollicares, versus apicem caulis sensim breviores. *Flores* in racemis terminalibus corymbosis dispositi: *Racemi* bifidi, secundi, imbricati, multiflori, ante anthesin revoluti. *Pedunculi* ac pedicelli calyce dimidio breviores hispidi. *Calyx* 5-partitus: laciniis linearibus obtusis, hispido-ciliatis, 3-nervibus. *Corolla* campanulata, (pallide rosea?) calycem superans, venis saturatioribus picta, laciniis integerrimis. *Filamenta* corolla duplo longiora in medio pilosa: *antheris* ovatis incumbentibus. *Ovarium* hispidum. *Stylus* ad medium usque bifidus, glaber, longitudine staminum: *stigmatibus* simplicibus.

Hab. Barren sandy plains of the Columbia, and on the Blue Mountains; N.W. America. *Douglas.*

3. *P. ramosissima* (Dougl.); erecta hispido-glandulosa, foliis petiolatis imparipinnatis, foliolis oblongis pinnatifido-incisis, spicis terminalibus circinatis globosis.

Caulis herbaceus, erectus, teres, fistulosus, hispidus, pilis glanduliferis. *Folia* alterna, petiolata, imparipinnata: pinnis superioribus confluentibus. *Foliola* oblonga, obtusissima, pinnatifido-incisa, hispidiuscula, pilis glanduliferis. *Spicæ* in summo caule ramisque, circinatæ, subglobosæ, floribus confertissimis. *Calyx* sessilis, profunde 5-partitus: laciniis obovato-lanceolatis, acutis, 3-nervibus, pilis mollibus glanduli-

feris ciliatis. *Corolla* calyce duplo longior, glabra, venosa: laciniis rotundatis integerrimis; genitalia corolla duplo longiora, cum germine, glabra.

Hab. Dry rocky plains of the Columbia, near the Priest's Rapid, "and at the Stony Islands," N.W. America. *Douglas.*

Ord. LXIV. BORAGINEÆ.* *Juss.*

1. HELIOTROPIUM. *L.*

Cor. hypocrateriformis: fauce pervia (in nonnullis barbata); *Limbi* laciniis plicatura simplex vel dente instructa interjecta. *Stigma* subconicum. *Nuces* 4, uniloculares, cohærentes, basi clausæ. *Receptaculum* commune manifestum nullum.

1. *H. Curassavicum;* caule herbaceo, foliis suboppositis lanceolatis obtusissimis obsolete venosis glabris glaucis, spicis conjugatis solitariisve.—*L.*—*Lehm. Asper. v.* 1. *p.* 34. *Nutt. Gen. v.* 1. *p.* 112. *Elliott, v.* 1. *p.* 745.

Hab. Vallies of the Blue Mountains (far removed from the sea). *Mr. Douglas* found it there only. —[In one of my specimens from Mr. Douglas's last journey, the leaves are nearly an inch broad, and the spikes quaternate and quinate: in all, the leaves are much broader than in any specimens I have ever seen of *H. Curassavicum.*] (*Hook.*)

2. MYOSOTIS. *L.*

Cor. hypocrateriformis: fauce squamis brevibus instructa. *Limbus* 5-partitus obtusus. *Stamina* inclusa. *Nuces* 4, uniloculares, fundo calycis affixæ, basi perforatæ.

α. nucibus lævibus glabris.

1. *M. alpestris;* foliis lanceolatis acutiusculis obsolete trinerviis hirsutis, racemis ebracteatis, pedicellis in fructu patentibus calyce 5-fido clauso paullo longioribus, limbo explanato tubo longiore.—*Schmidt, Bohem. Cent.* 3. *Lehm. Asper. v.* 1. *p.* 86.—M. lithospermifolia. *Horn. H. Hafn. v.* 1. *p.* 173.—M. suaveolens. *Waldst. et Kit.*—M. rupicola. *Engl. Bot. t.* 2559.

Hab. Common in the Rocky Mountains. *Drummond.* Arctic sea-shore. *Dr. Richardson.*—The American plant corresponds exactly with the European one, and varies also with blue and white flowers.

2. *M. palustris;* calyce satis rectis appressis fructifero campanulato patente pedicellis divergentibus breviora, corollæ limbo plano tubum excedente, pube caulis patente (vel nullo),—var. *micrantha*; caulis pube appressa.—M. lingulata. *Lehm. Asper. v.* 1. *p.* 110. *inter species in quas inquirendum esset.*—M. cæspitosa. *Schultz. Flor. Starg. Suppl. p.* 11. *Spreng. Syst. Veget. v.* 1. *p.* 557. (*excl. synon.*)

Hab. Canada. *Mrs. Percival, Mrs. Sheppard.* Newfoundland. *Dr. Morrison, Mr. Cormack.*—This plant, though in my opinion only a variety, is, however, as such, a very distinct one.

3. *M. versicolor;* foliis lanceolatis obtusiusculis hirsutis, racemis ebracteatis, pedicellis in fructu erecto-patentibus calyce 5-fido acuto clauso brevioribus, limbo patente tubo breviore. —*Pers. Syn. v.* 1. *p.* 156. *Engl. Bot. t.* 480. *Lehm. Asper. v.* 1. *p.* 93.

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* By Professor Lehmann.

Hab. N.W. Coast. *Douglas.*—(There are specimens in the collection of this, or a closely allied species, a foot in height, with the young spikes densely capitate, the flowers twice or thrice larger than the usual appearance of *M. versicolor*, and with the hairs of the spikes yellowish.—H.)

4. *M. flaccida* (Dougl.); caule erecto ramoso, foliis linearibus calloso-strigosis, spicis ebracteatis bifidis, calycibus 5-partitis in fructu arcte adpressis clausis basi apiceque hispidissimis.

Planta annua. *Caulis* erectus, 1–1½ pedalis, teres, adpresso-pilosus, ramosus, ramis erecto-patentibus, in spicam bifidam desinentibus. *Folia* sessilia, linearia, (1–1½ poll. longa 1½ lin. lata,) acutiuscula, integerrima, calloso-strigosa, uninervia, patentia. *Spicæ* caulem et ramos terminantes, ebracteatæ, multifloræ, ante anthesin revolutæ, dein elongatæ, flaccidæ. *Flores* subsecundi, sessiles, crescente fructu, distantes. *Calyces* 5-partiti: laciniis linearibus obtusis basi apiceque hispidissimis, floriferi erecti, fructiferi clausi, rhachim arcte adpressi. *Corolla* (ut videtur) flava, glabra. *Tubus* longitudine calycis. *Limbus* brevis, planus, laciniis integerrimis. *Nuces* 4, ovatæ, acuminato-rostellatæ, glaberrimæ, fusco-nitidæ.

Hab. N.W. Coast, in dry plains. *Douglas.*

β. nucibus rugosis.

5. *M. glomerata;* caule erecto foliisque spathulato-linearibus hispidis, spicis solitariis axillaribus subpedunculatis bracteatis glomeratis, floribus confertis, calycibus hispidissimis, nucibus dorso rugosis. (Tab. CLXII.)—*Nutt. Gen. Am. v.* 1. *p.* 112.—Cynoglossum glomeratum. *Fras.—Pursh, Am. v.* 2. *p.* 729. *Lehm. Asper. v.* 1. *p.* 176.

Hab. Barren sands of the Columbia, near Lewis and Clarke's River. *Douglas.* About Carlton House Fort. *Dr. Richardson.*—One of the most beautiful species, with white flowers of the size of those of *Anchusa officinalis.* All the spikes are not, as said in Nuttall's description, *bifid*, but (according to my specimens) only the superior ones; the inferior ones are *simple.* In the description now referred to, the bractes of the spikes are not mentioned, which are linear, hispid (hispidissimæ); the inferior ones of the length of the calyx. The inflorescence is rather a spica terminalis composita e spiculis alternis approximatis simplicibus bifidisque, than what is called spicæ axillares, which becomes more evident since the leaf at the base of the spikelets (quite of the same structure as the stem-leaves) is not affixed to the stem, but at the branch of the spike.

Tab. CLXII.—*Fig.* 1, Flower; *fig.* 2, Pistil; *fig.* 3, Fruit; *fig.* 4, Single achenium, anterior view:—*magnified.*

6. *M. leucophæa* (Dougl.); caule erecto, foliis lanceolato-linearibus supra sericeis subtus strigosis, spicis in summo caule congestis paucifloris, calycibus hispidissimis, nucibus..... (Tab. CLXIII.)

Planta pulcherrima. *Radix* perennis. *Caulis* erectus, subpedalis, angulatus, inferne pilis adpressis, superne pilis patentibus tomentoso-hispidus. *Folia* sessilia, alterna, lanceolato-linearia, acuta, integerrima, supra sericea, subtus strigosa, trinervia, nervis lateralibus submarginalibus obscurioribus. *Spicæ* plures in apice caulis axillisque foliorum superiorum densissime congestæ, hispidissimæ, paucifloræ. *Calyx* 5-partitus, 4 lineas longus: laciniis linearibus obtusis uninerviis *intus* apice tomentosis. *Corolla* magna, alba. *Tubus* calyce paullo longior, glaber. *Limbus* 5-partitus, planus, laciniis obovato-subrotundis. *Antheræ* supra medium tubi adnatæ. [*Nuces* 4, suborbiculatæ, ovatæ, acutæ, glabræ, læves, dorso planæ, marginibus subalatis. *Semen* ovatum, obtusum.—*Hook.*]

Hab. Arid barrens of the Columbia, and of its northern and southern tributaries. *Douglas.*

Tab. CXLIII.—*Fig.* 1, Flower; *fig.* 2, Calyx with the pistil; *fig.* 3, Corolla laid open; *fig.* 4, Pistil; *fig.* 5, Fruit; *fig.* 6, Single achenium; *fig.* 7, the same cut open showing the seed:—*magnified.*

7. *M. fulva;* hispida, caule erecto, foliis oblongo-linearibus obtusis v. acuminatis calloso-strigosis, racemis demum valde elongatis, calycibus pilis flavis hispidissimis 5-partitis sessilibus fructiferis ampliatis laciniis erectis, nucibus 2 (alteris abortientibus) reniformi-ovatis rugosis nigris.—*Hook. et Arn. in Bot. of Beechey's Voy. v.* 1. *p.* 38.

Hab. Dry prairies of the Columbia. *Mr. Tolmie.*—These specimens entirely agree with the original ones from Chili. The species is indeed very distinct and well-marked, remarkable for the large size of the calyx, especially when in fruit. (*Hook.*)

8. *M. Chorisiana;* caulibus filiformibus adscendentibus subramosis, foliis sessilibus angusto-linearibus calloso-strigosis, racemis terminalibus secundis, calycibus hispidis in fructu erectis apice barbatis, nucibus verrucosis rugosis.—*Cham. in Lin. v.* 4. *p.* 444. *Hook. et Arn. in Bot. of Beech. Voy. v.* 1. *p.* 152.

Caules ex eadem radice plures, adscendentes, ramosi, subpalmares, incumbenti-pilosi. *Folia* sessilia, angusto-linearia, acutiuscula, utrinque strigosa, 3-nervia, nervis lateralibus obscuris. *Racemi* multiflori, in summo caule ramisque secundi, ebracteati, floribus infimis axillaribus. *Calyces* brevi-pedicellati, erecti, 5-partiti: laciniis lanceolato-linearibus, hispidis, apice fulvo-barbatis. *Pedicelli* sub calyce incrassati. *Corolla* parva, flava. *Tubus* calycem subsuperans: *Limbi* laciniæ rotundatæ, integerrimæ. *Nuces* rugosæ, verrucosæ.

Hab. Columbia. *Dr. Scouler.*—This was found in California by the officers of Captain Beechey's Voyage. (*Hook.*)

3. ECHINOSPERMUM. *Lehm.*

Cor. hypocrateriformis: fauce squamis brevibus instructa. *Limbus* 5-partitus, obtusus, patulus. *Nuces* 4, uniloculares, echinatæ, columnæ centrali affixæ, basi imperforatæ.

α. fructibus nutantibus vel deflexis.

1. *E. Virginicum;* foliis ovato-oblongis acuminatis nervoso-venosis, supra scabris subtus pubescentibus, racemis divaricatis bracteolatis, nucibus aculeis glochidiatis dense asperis.—*Lehm. Asper. v.* 1. *p.* 117.—Rochelia Virginiana. *Rœm. et Schult. v.* 4. *p.* 108. *Torr. Am. v.* 1. *p.* 208.—Myosotis Virginica. *Lin. Sp. Pl. v.* 1. *p.* 189. *Pursh, Am. v.* 1. *p.* 134. *Nutt. Gen. Am. v.* 1. *p.* 112.

Hab. Canada to the Saskatchawan. *Dr. Richardson, Drummond.*

2. *E. diffusum;* caule foliisque hirsutis: radicalibus petiolatis oblongo-lanceolatis, caulinis superioribus ovatis obtusis sessilibus, racemis erectis simplicibus bracteatis, nucibus aculeis glochidiatis undique adspersis.—*Lehm. Pugil. II. p.* 23.—Myosotis diffusa. *Dougl. ms.*

Caulis subpedalis, erectus, teres, hirsutus, apice in ramulis racemiferis divisus. *Folia* integerrima, utrinque hirsuta, sub 3-nervia: nervo medio subtus protuberante: *radicalia* longe petiolata, oblongo-lanceolata, obtusiuscula, *caulina* sparsa conferta, *inferiora* radicalibus simillima sed minora et brevius petiolata; *superiora* sessilia, ovata, obtusa. *Racemi* simplices, hirsuti, erecti, bracteati. *Bracteæ* inferiores ovato-lanceolatæ, longitudine pedicellorum, superiores lineares breviores. *Pedicelli* subsecundi, 3 lin. longi, hir-

suti, floriferi erecti, in fructu nutantes. *Calyx* 5-partitus, laciniis oblongo-linearibus, obtusissimis, hirsutis, patentibus. *Corolla* alba? magna: *tubus* calyce paullo longior sensim ampliatus, fauce subclausa, fornicibus papillosis. *Limbus* 5-lobus: lobis obovatis, rotundatis, venosis, tubo duplo longioribus. *Filamenta* inclusa brevissima: *antheris* ovatis. *Nuces* 4, aculeis glochidiatis undique adspersis.

Hab. N.W. America. *Douglas.*

3. *E. floribundum;* foliis subsessilibus lineari-lanceolatis acutatis subciliatis utrinque pubescentibus, radicalibus lanceolatis petiolatis, racemis bifidis bracteolatis, nucibus glabriusculis aculeis glochidiatis serie simplici margine dispositis. (Tab. CLXIV.)—*Lehm. Pugil. II. p.* 24.

Caulis herbaceus, 1½–2-pedalis, strictus, teres, fistulosus, pilis adpressis subhirsutus. *Folia* integerrima, utrinque pubescentia subciliata: *radicalia* lanceolata, acuta, in petiolum longitudine folii attenuata; *caulina* sparsa, approximata, lineari-lanceolata longe acuminata, infima in petiolum decurrentia, reliqua sessilia. *Racemi* axillares, pedunculati, in summo caule paniculati, bifidi, bracteolati, multiflori. *Pedicelli* pilosi; *floriferi* longitudine calycis erecti; *in fructu* calyce duplo longiores refracti. *Bracteæ* lanceolatæ, minutæ. *Calyx* 5-partitus, hirsutus, laciniis ovato-lanceolatis obtusis. *Corolla* cærulea, magnitudine florum *Myos. palustr.* *Tubus* longitudine calycis. *Limbus* planus: laciniis rotundatis. *Antheræ* ovatæ, basi bifidæ, in tubo subsessiles. *Pistillum* tubo brevior: *stigmate* capitato. *Nuces* 4, ovatæ, acutæ, glabriusculæ, aculeis subulatis apice glochidiatis versus marginem simplici serie dispositis.

Hab. Lake Pentanguishene to the Rocky Mountains. *Drummond.*

Tab. CLXIV.—*Fig.* 1, Flower; *fig.* 2, Pistil; *fig.* 3, Fruit; *fig.* 4, Single acheninm:—*magnified.*

4. *E. deflexum;* foliis oblongo-lanceolatis obtusiusculis hirsutis, racemis erecto-patentibus inferne bracteolatis, nucibus aculeis basi connatis apice glochidiatis serie simplici margine dispositis.—*Lehm. Asper. v.* 1. *p.* 120.—Rochelia deflexa. *Rœm. et Schult. Syst. Veg. v.* 4. *p.* 109.—Myosotis deflexa. *Wahl. Act. Holm.* 1810. *p.* 113. *t.* 4. *Flor. Dan. t.* 1568.

Hab. Cumberland House Fort. *Drummond.*

β. fructibus erectis.

5. *E. Lappula;* caule superne ramoso, foliis lanceolatis incumbenti-pilosis ciliatis, corolla parva, limbo erecto patente, nucibus aculeis glochidiatis serie duplici margine dispositis.—*Lehm. Asper. v.* 1. *p.* 121.—Rochelia Lappula. *Rœm. et Schult. Syst. Veg. v.* 4. *p.* 109. *Torr. Fl. v.* 1. *p.* 208.—Myosotis Lappula. *L. Sp. Pl. v.* 1. *p.* 189. *Flor. Dan. t.* 692. *Pursh, Am. v.* 1. *p.* 134. *Nutt. Am. v.* 1. *p.* 112. *Rich. App. p.* 5.

Hab. Lake Huron. *Dr. Todd.* N.W. America. *Douglas.*

6. *E. patulum;* ramis patulis, foliis oblongo-lanceolatis patulo-pilosis, nucibus aculeis distantibus elongatis glochidiatis serie simplici margine dispositis.—*Lehm. Asper. v.* 1. *p.* 124. *Spreng. Syst. Veg. v.* 1. *p.* 566. (*excl. syn. Myos. Redowskii*).—Myosotis squarrosa. *Bieberst. Fl. Taur. Cauc. v.* 1. *p.* 120. (*excl. syn. Retzii.*) *Willd. Enum. Plant. v.* 1. *p.* 176.

Hab. Cumberland House to Bear Lake. *Dr. Richardson.*

4. CYNOGLOSSUM. *L.*

Cor. infundibuliformis fauce fornicibus erectis instructa. *Nuces* 4, uniloculares, compressæ, echinatæ vel margine membrana plana circumdatæ, columnæ centrali affixæ, basi imperforatæ.

α. nucibus depressis, exteriore latere aculeis plerumque glochidiatis tectis.

1. *C. ciliatum* (Dougl.); caule erecto simplici hirsuto, foliis linearibus acutis elongatis trinerviis tomentoso-hirsutis ciliatis, racemis terminalibus bracteatis secundis, staminibus inclusis. ***Lehm. Pugil. II. p. 24.***

Caulis erectus, 1½-pedalis, teres, simplicissimus, canescens, hirsutus: pilis retrorsis, in summo caule patentibus. *Folia* distantia, sessilia, linearia, acuta, incana, tomentoso-hirsuta, ciliata, 3-nervia; *inferiora* 4 poll. longa, 2 lin. lata, *suprema* pollicaria. *Racemi* terminales, subcorymbosi, villosi, secundi, bracteolati, ante anthesin revoluti. *Bracteæ* lineares, longitudine pedicellorum. *Calyx* 5-partitus: laciniis lanceolatis obtusis, villosis. *Corolla* cærulea, calyce dimidio longior. *Tubus* brevissimus: *Limbus* 5-fidus: laciniis oblongis rotundatis, tubo duplo longioribus. *Fornices* 5 erecti, connivientes. *Filamenta* tubo inserta, brevissima: *antheris* elliptico-oblongis usque ad faucem porrectis. *Stylus* crassus brevis, stigmate capitato. *Nuces*.....

Hab. Dry banks of the mountain streams, Little falls of the Columbia, and upwards to the Rocky Mountains. ***Douglas.***

2. *C. officinale;* caule erecto folioso, foliis inferioribus late lanceolatis basi attenuatis superioribus basi latioribus acutis pubescenti-tomentosis, racemis ebracteatis durante florescentia paniculatis, staminibus inclusis.—*L. Sp. Pl. v.* 1. *p.* 192. *Engl. Bot. t.* 921. *Flor. Dan. t.* 1147. *Bigel. Bost. p.* 47. *Pursh, Am. v.* 1. *p.* 133. *Lehm. Asper. v.* 1. *p.* 152. *Rœm. et Schult. Syst. Veg. v.* 4. *p.* 74. *Torr. Fl. v.* 1. *p.* 208.

Hab. Canada to the Saskatchawan. *Mrs. Percival, Lady Dalhousie, Dr. Richardson.* Lake Huron. *Dr. Todd.*

3. *C. Virginicum;* caule erecto, foliis ovato-oblongis acutis superioribus basi cordatis amplexicaulibus hirsutissimis, racemis brevibus corymbosis ebracteatis, staminibus inclusis.—*L. Sp. Pl. v.* 1. *p.* 193. *Lehm. Asper. v.* 1. *p.* 156. *Torr. Fl. v.* 1. *p.* 208.—C. amplexicaule. *Mich. Fl. v.* 1. *p.* 132. *Pursh, Am. v.* 1. *p.* 133.

Hab. Canada and Lake Huron, (*Mrs. Percival, Dr. Todd*), to the Rocky Mountains (rare). *Drummond.*

4. *C. grande* (Dougl.); caule erecto glabro superne nudo, foliis petiolatis subtus pilosis: inferioribus maximis cordato-ovatis undulatis, superioribus oblongo-lanceolatis, racemis ebracteatis glabris pedunculatis paucifloris, calyce villoso.—*Lehm. Pugil. II. p.* 25.—C. officinale. *Hook. et Arn. Bot. of Beech. Voy. v.* 1. *p.* 152. (*nec alior*).

Caulis herbaceus, sub-2-pedalis, erectus, angulatus, fistulosus, laxus, glaber, basi foliosus apice nudus. *Folia infima* cordato-ovata, acuta, undulata, ciliata, venosa, supra viridia pilis raris adpressis obsita, subtus pallidiora adpresse pilosa, 9 poll. longa. 4 lin. lata, *superiora* e basi cordato in petiolum producta, acuta, undulata, ciliata, 8 poll. longa, 2–3 lin. lata, suprema sensim minora, oblongo-lanceolata, acuminata, plana. *Petioli* glabri, ciliati. *Racemi* pauciflori, pedunculati, in summo caule paniculam laxam constituentes. *Pedunculi* glabri, nudi, 1½–2½ poll. longi. *Pedicelli* 2–4 lineas longi, glabri, apice pilosi. *Calyx* 5-fidus, densissime villosus: laciniis elliptico-lanceolatis, obtusis. *Corolla* cærulea, calyce duplo longior, major quam in *C. officinale.* *Filamenta* brevissima, supra medium tubi inserta, *antheris* ellipticis faucem attingentibus. *Stylus* longitudine tubi, stigmate capitato.

Hab. Shady woods, N.W. Coast. *Douglas, Mr. Tolmie, Dr. Gairdner.*—A truly distinct species, found also in California by the officers of Captain Beechey's Voyage.

5. OMPHALODES. *Juss.*

Cor. rotata: fauce fornicibus brevibus clausa. *Limbus* 5-partitus, obtusus. *Nuces* 4, uniloculares, depressæ, margine membrana inflexa, calathiformes, columni centrali affixæ, basi imperforatæ.

1. *O. linifolia;* foliis radicalibus cuneiformibus, caulinis lineari-lanceolatis glabris margine denticulato-ciliatis, racemis ebracteatis.—*Mœnch, Method. p.* 419. *Lehm. Asper. v.* 1. *p.* 187.—Cynoglossum linifolium. *L.*—*Moris. Hist.* 3. *Sect.* 11. *t.* 30. *f.* 11. *Barrel. Icon.* 1234.—Ricotia linifolia. *Ræm. et Schult. Syst. Veg. v.* 4. *p.* 86.

Hab. Sent by *Dr. Morison* from Labrador. An re vera in America boreali indigena?—[Probably cultivated; yet it is singular that a tender annual of Spain and Portugal should come to perfection and bear seed, as the specimen shows, in so northern a region as Labrador. *Hook.*]

6. LITHOSPERMUM. *L.*

Cal. 5-partitus. *Cor.* infundibuliformis: fauce pervia, nuda. *Antheræ* oblongæ inclusæ. *Nuces* 4, uniloculares, ovatæ, fundo calycis affixæ, basi imperforatæ.

Sectio I. *Floribus subpaniculatis. Nucibus lævibus vel rugosis. Foliis radicalibus post florescentiam excrescentibus.* (Pulmonariæ.)

1. *L. maritimum;* caulibus procumbentibus ramosis, foliis ovatis obtusiusculis carnosis glabris glaucescentibus, calycibus glabris.—*Lehm. Asper. v.* 2. *p.* 291. *Torr. Fl. v.* 1. *p.* 202.—Pulmonaria maritima. *L. Sp. Pl. v.* 1. *p.* 195. *Engl. Bot. t.* 368.—Pulmonaria parviflora. *Mich. Fl. v.* 1. *p.* 131. *Pursh. Fl. v.* 1. *p.* 131.

Hab. Canada. *Mrs. Percival.* Newfoundland and Labrador, (*Miss Brenton, Dr. Morison*), throughout the Arctic sea-shores (*Dr. Richardson, Captain Sir E. Parry, &c.*) to Behring's Strait, (*Lay and Collie, Chamisso, &c.*), and the N.W. Coast. *Menzies.*

2. *L. marginatum;* caule glabro erecto, foliis radicalibus petiolatis obovato-oblongis, caulinis oblongo-spathulatis acutis semiamplexicaulibus margine hispidis, calycibus glabris laciniis acuminatis margine hispidis.—*Spreng. Syst. Veg. v.* 1. *p.* 547.—Pulmonaria marginata. *Nutt. Am. v.* 1. *p.* 115.—Pulmonaria lanceolata. *Pursh, Am. v.* 2. *p.* 729.

Hab. Elevated banks of the Columbia (common). *Douglas.*

3. *L. Drummondii* (Lehm.); caule glabro ascendente, foliis radicalibus ovato-lanceolatis caulinis sessilibus oblongo-lanceolatis callosis subdenticulatis glaucis, paniculis terminalibus congestis, calycibus glabris laciniis acutiusculis subdenticulatis.—*Lehm. Pugil. II. p.* 26.

Caules plures ex eadem radice, adscendentes, glaberrimi, teretes, semipedales. *Folia* radicalia, ovato-lanceolata; *caulina* oblongo-lanceolata, acuta, subdenticulata, glauca, superne calloso-punctata, 3-nervia. *Flores* paniculati, in summo caule congesti. *Pedunculi* foliis multo breviores, 2–3 lin. longi, 3–5-flori. *Pedicelli* calycibus breviores, glaberrimi, suberecti. *Calyx* glaber, 5-partitus: laciniis lanceolatis acutiusculis, margine subdenticulatis. *Corolla* calyce subtriplo longior, fere semipollicaris, cyanea. *Tubus* cylindricus calyce duplo longior, intus glaber, fauce notata protuberantiis quinque. *Limbus* campanulatus, longitudine tubi, 5-fidus, laciniis integerrimis, rotundatis. *Filamenta* summo tubo inserta, brevissima, plana, membranacea: *antheris* linearibus. *Stylus* stamina æquans, linearis, compressus: stigmate capitato.

Hab. Arctic sea-shore. *Dr. Richardson.*—[To me this seems to have too close an affinity with *L. Virginicum.*] *Hook.*

4. *L. denticulatum;* caule erecto, foliis nervosis subglabris acutis margine denticulato-scabris, radicalibus ovatis, caulinis oblongis, laciniis calycis oblongis margine denticulatis.—*Lehm. Asper. v.* 2. *p.* 294. *Torr. Fl. v.* 1. *p.* 203.—Pulmonaria Sibirica. *Pursh, v.* 2. *p.* 729. (*excl. syn.*)—P. denticulata. *Rœm. et Schult. Syst. Veg. v.* 4. *p.* 746.

Hab. Canada. *Pursh.* Shady woods near the confluence of the Columbia with the sea. *Douglas, Mr. Tolmie.*

5. *L. paniculatum;* caule erecto, foliis nervosis scabriusculis acuminatis, inferioribus ovato-cordatis, superioribus ovato-oblongis, floribus paniculatis, calycibus piloso-hispidis.—*Lehm. Asper. v.* 2. *p.* 289. *Rich. App. p.* 5.—Pulmonaria paniculata. *Ait. Kew. ed.* 1. *v.* 1. *p.* 181. *Pursh. Am. v.* 1. *p.* 131. *Nutt. Am. v.* 1. *p.* 115.

Hab. Saskatchawan to Hudson's Bay and Bear Lake. *Dr. Richardson, Drummond.* Blue Mountains, N.W. Coast. *Douglas.*

6. *L. corymbosum* (Lehm.); caule erecto piloso, foliis ovatis acutis in petiolum attenuatis glabriusculis margine et subtus pilosis, floribus racemoso-corymbosis, laciniis calycis lanceolato-linearibus elongatis acutis.—*Lehm. Pugil. II. p.* 27.—Pulmonaria pilosa. *Cham. in Linnæa.*—Lithosp. denticulatum. *Hook. et Arn. Bot. of Beech. Voy. p.* 128.

Caules ex eadem radice plures, erecti, simplices, subpedales, fistulosi, pilosi. *Folia radicalia* late-ovata longe petiolata; *caulina* alterna, ovata, acuta, in petiolum attenuata, integerrima, venosa, supra glabriuscula, subtus et margine pilosa, suprema sessilia. *Petiolus* planus, pilosus, basi caulem subamplectens. *Flores* terminales in racemis corymbosis 5–8-floris dispositi. *Racemi* simplices vel bifidi, corymbosi, hirsuti, basi bractea lanceolata, acuminata, hirsuta instructi. *Calyx* 5-partitus, laciniis lanceolato-linearibus, acutis, hirsutis, longitudine tubo corollæ. *Corolla* infundibuliformis, cærulea, semipollicaris. *Tubus* limbo subbrevior, intus pilosus. *Limbus* 5-lobus: lobis rotundatis. *Filamenta* brevissima, membranacea, fauci inserta: *antheris* linearibus. *Stylus* subulatus, basi compressus, longitudine corollæ: *stigmate* capitulato.

Hab. Fort-William to the Rocky Mountains. *Drummond.* Hudson's Bay. *Douglas.* Kotzebue's Sound. *Lay and Collie.*

Sectio II. *Floribus subsolitariis luteis, corolla intus ad basin annulo barbato cincta.* (Batschiæ.)

7. *L. incisum;* caule herbaceo simplici erecto, foliis linearibus revolutis sericeo-villosis, corollæ tubo longissimo, limbi laciniis fimbriatis. (Tab. CLXV.)—*Lehm. Asper. v.* 2. *p.* 303. *Rich. App. p.* 5.—L. longiflorum. *Spr. Syst. Veg. v.* 1. *p.* 544.—Batschia longiflora. *Pursh, Am. v.* 1. *p.* 132. *Nutt. Am. v.* 1. *p.* 114.

Caulis erectus, subpedalis, strigosus. *Folia* alterna, sessilia, linearia, margine revoluta, utrinque sericeo-villosa, bipollices longa. *Flores* in axillis foliorum superiorum subsessiles. *Calyx* hirsutus, 5-partitus: laciniis linearibus, acuminatis, 3 lineas longis. *Corolla* flava. *Tubus* angustus, subpentagonus, superne ampliatus, pollicem superans, fauce instructa protuberantiis 5 planis, rotundatis. *Limbus* 5-lobus, laciniis fimbriatis.

Hab. Banks of the Saskatchawan to lat. 55°. *Dr. Richardson, Drummond;* and Eagle and Red Rivers: also in the vallies of the Rocky Mountains, near the sources of the Athabasca. *Douglas.*—[This species has a most extensive range. I possess specimens gathered by Bradbury on the Missouri, and at Galveston Bay, by Drummond (n. 304 of his 3d Texas collection.)—*H.*]

Tab. CLXV.—*Fig.* 1, Flower; *fig.* 2, Pistil:—*magnified.*

8. *L. Mandanense;* caule decumbente hirsuto, foliis lanceolato-linearibus sericeo-strigosis margine revolutis, floribus pedicellatis, corollæ limbo fimbriato-crenato. (Tab. CLXVI.)—*Spr. Syst. Veg. v.* 1. *p.* 544.—Batschia decumbens. *Nutt. Am. v.* 1. *p.* 114.

Affinis præcedenti, differt foliis latioribus, floribus dimidio brevioribus et habitu omnino diversa.—*Radix* lignosa multiceps. *Caules* decumbentes, hirsuti, 4–6 pollicares, superne in ramis floriferis dichotomo-vel trichotomo-divisi. *Folia* lanceolato-linearia, obtusissima, margine revoluta, sericeo-strigosa, 5–9 lineas longa, suprema longiora et latiora. *Flores* breviter pedicellati in axillis foliorum superiorum. *Calyx* 5-partitus :laciniis linearibus, acutis. *Corolla* semipollicaris: *Limbus* planus, laciniis fimbriato-crenulatis. *Stamina* summo tubo inserta. *Stylus* longitudine tubi: *stigmate* bilobo.

Hab. Mountains and Plains of the Saskatchawan. *Drummond.*

Tab. CLXVI.—*Fig.* 1, Flower; *fig.* 2, Pistil:—*magnified.*

9. *L. hirtum;* caule herbaceo erecto simplici hirto, foliis lineari-lanceolatis obtusis, floralibus ovato-lanceolatis rotundato-obtusis utrinque hirtis, corollæ tubo calycem subæquante, limbo integerrimo.—*Lehm. Asper. v.* 2. *p.* 304. *Torr. Am. v.* 1. *p.* 204. *Spr. Syst. Veg. v.* 1. *p.* 544.—Anchusa hirta. *Mühlenb. Cat. Plant. Am. Sept. p.* 19.—Batschia Gmelini. *Mich. Am. v.* 1. *p.* 130. *Pursh. Am. v.* 1. *p.* 132.—B. Caro'inensis. *Gmel. Syst. Nat. v.* 2. *p.* 315.—B. Caroliniana. *Rœm. et Schult. Syst. Veg. v.* 4. *p.* 52.

Hab. Upper Canada. *Goldie.* Lake Huron. *Dr. Todd.*—This species is also found as far South as Galveston Bay, Texas. (No. 310 of Mr. Drummond's 3d collection.)

10. *L. canescens;* caule herbaceo erecto subsimplice villoso, foliis oblongo-lanceolatis obtusis emarginatis utrinque adpresse villosiusculis, junioribus candicantibus demum scabriusculis, corollæ tubo calyce duplo longiore, limbo integerrimo.—*Lehm. Asper. v.* 2. *p.* 305. *Torr. Am. v.* 1. *p.* 203. (*excl. syn. Anchusæ virg.*)—Anchusa canescens. *Mühl. Cat. Plant. Am. Sept. p.* 19.—Batschia canescens. *Mich. Am. v.* 1. *p.* 130. *t.* 14. *Pursh, Am. v.* 1. *p.* 132.—B. conspicua. *Rich. App. ed.* 1. *p.* 49.

Hab. Canada to the Saskatchawan. *Dr. Richardson, Drummond, Douglas.*

11. *L. sericeum;* caule basi suffruticoso erecto trichotomo-ramoso superne villoso, foliis oblongo-lanceolatis obtusis supra sericeis subtus subvilloso-canescentibus, corollæ tubo calyce duplo longiore, limbo integerrimo.—*Lehm. Asper. v.* 2. *p.* 306.—Lithospermum Virginianum. *Moris. Hist.* 3. *Sect.* 11. *t.* 28. *f.* 4.—Anchusa Virginica. *L. Sp. Pl. v. p.* 191. —Batschia sericea. *Rœm. et Schult. Syst. Veg. v.* 4. *p.* 743.

Affinis præcedenti, differt caule apice trichotomo-diviso, foliis integerrimis (nec emarginatis) majoribus magis sericeis, corollis duplo fere majoribus.

Hab. Banks of the Saskatchawan. *Dr. Richardson, Drummond, Douglas.*

Sectio III. *Corolla fauce nuda, foliis radicalibus post florescentiam non excrescentibus.* (Lithospermæ veræ.)

12. *L. officinale;* caule erecto ramis numerosis, foliis lanceolatis acutis nervosis scabris subtus oppresse hirsutis, corollæ tubo longitudine calycibus nucibus brevissimis impunctatis. *L.—Lehm. Aspenf. p.* 313. (*excl. syn.*)—L. latifolia. *Muhl. Cert.. p.* 18. *Torrey, Fl. p.* 202.

Hab. Falls of Niagara. *Mr. Greene.* Quebec. *Mrs. Sheppard.*—(I quite agree with my friend Dr. Torrey, that *L. latifolium* of American authors is a very distinct species, and exclusively a more southern plant.)—*Hook.*

13. *L. ruderale* (Dougl.); caule herbaceo stricto hirsuto, foliis linearibus acuminatis strigosis, spicis foliosis, corollis villosis, tubo longitudine calycis. *Lehm. Pugil. II. p.* 28.

Caulis herbaceus, strictus, angulatus, sulcatus, simplex, apice ramosus, 1–1½-pedalis, hirsutus. *Folia* sparsa, conferta, sessilia, acuminata, strigosa, versus marginem et ad nervum medium subtus hispida: *inferiora* linearia, erecta, bipollicaria et ultra: *superiora* lineari-lanceolata, erecto-patentia. *Ramuli* spica solitaria, foliosa, pauciflora terminati: *floribus* subsessilibus. *Calyx* hirsutus, 5-partitus: laciniis inæqualibus, erectis, linearibus. *Corolla* extus villosa, flava. *Tubus* longitudine laciniarum calycis longiorum cylindricus: laciniis limbi ovatis rotundatis. *Filamenta* tubi corollæ inserta: *antheris* oblongis usque ad faucem porrectis. *Stylus* longitudine tubi, stigmate simplici.

Hab. Gravelly banks of the Columbia and Multnomack Rivers. *Douglas.*

14. *L. angustifolium;* caulibus herbaceis procumbentibus, foliis linearibus undique strigosis, floribus sparsis lateralibus axillaribusque, fructibus turgide ovatis nitidis impresso-punctatis.—*Mich. Am. Bor. v.* 1. *p.* 130. *Ph. Am. v.* 1. *p.* 131. *Lehm. Asper. v.* 2. *p.* 309.

Hab. Head of Lake Ontario. *Goldie.* Canada. *Dr. Holmes.* Norway House on the Saskatchawan. *Drummond.*—In fruit, and only one specimen gathered. (Drummond's plants, from Brazosia and San Filipé in Texas, III. n. 307 and 306, are probably the same species.)

15. *L. lycopsoides* (Lehm.); caulibus herbaceis procumbentibus ramosis foliisque ovato-lanceolatis denticulatis setoso-ciliatis utrinque hirtis, floribus sparsis lateralibus axillaribusque, nucibus ovato-trigonis basi emarginatis dorso convexis rugosis.—*Lehm. Pugil. II. p.* 28.

Caulis procumbens, teres, hirtus, di-vel trichotomo-ramosus: ramis adscendentibus. *Folia* sessilia, ovato-lanceolata, acuta, utrinque e punctis sparsis callosis hirta, undulato-denticulata, denticulis callosis setosis. *Flores* laterales axillaresque breviter pedicellati. *Calyx* hispidissimus, 5-partitus, laciniis lanceolatis, 2 lineas longis, in fructu cernuus, subinflatus. *Corolla* longitudine calycis, flava, glabra, limbo erecto minimo. *Genitalia* inclusa. *Nuces* ovatæ, trigonæ, acutæ, brunneæ, dorso convexæ, rugosæ.

Hab. Straits of de Fuca, N.W. America. *Dr. Scouler.*

7. ECHIUM. *L.*

Cal. 5-partitus. *Cor.* infundibuliformis vel campanulata: fauce ampliata nuda. *Limbi* laciniis in plurimis inæqualibus. *Nuces* 4, uniloculares, turbinatæ, gigartoideæ, scabræ, fundo calycis affixæ, basi imperforatæ.

1. *E. Menziesii;* caule herbaceo erecto retrorsum hispido, foliis sessilibus acutis hispidissimis, inferioribus angusto-lanceolatis, superioribus ovato-lanceolatis, racemis multifloris imbricatis hispidissimis, staminibus corolla parva subtubulosa multo brevioribus.—*Lehm. Pugil. II. p.* 29.

Radix simplicissima. *Caulis* herbaceus, erectus, angulatus, sulcatus, retrorsum hispidissimus, 1½-pedalis, ramosus. *Folia* sessilia, obscure 3-nervia, undique e punctis callosis hispidissima. *Radicalia* et *caulina inferiora* angusto-lanceolata (3 poll. longa, 4 lin. lata) acuta, integerrima: *superiora* ovato-lanceolata.

Racemi caulem et ramos terminantes, solitarii, multiflori, secundi, ebracteati, hispidissimi, ante anthesin revoluti. *Calyces* hispidissimi, 5-partiti: laciniis linearibus, æqualibus. *Corolla* subtubulosa, glabra, flavescens? *Tubus* cylindricus, calyce dimidio longior, apice paullo inflatus. *Limbus* erectus, 5-lobus, inæqualis: lobis tribus reliquis duplo latioribus. *Filamenta* brevissima, æqualia, versus basin tubi inserta. *Stylus* filiformis, glaber, longitudine staminum: stigmate capitato. *Nuces* 4, incurvæ, ovatæ, trigonæ, rugosissimæ.

Hab. N.W. Coast of America. *Mr. Menzies.*

[Obs. I have received *Lycopsis Europæa*, *Borago officinalis*, and *Symphytum officinale*, from Canada, gathered by Mrs. Percival, but I fear they cannot be considered natives.

Ord. LXV. SOLANEÆ. *Juss.*

1. SOLANUM. *L.*

Cal. 4–5-rarius 10-fidus. *Cor.* subrotata, plicata, 4–5-rarius 10-fida. *Antheræ* conniventes, apice poro gemino dehiscentes (interdum inæquales.) *Bacca* subglobosa, 2-(rarius 3–4-)locularis.—Herbæ *v.* frutices *inermes v. aculeati.* Folia *indivisa v. lobata, nunc imparipinnata.* Inflorescentia *varia, sæpius extra-axillaris. Br.*

1. *S. nigrum;* inerme herbaceum, foliis ovatis repandis, corymbis subumbellatis pedunculatis lateralibus nutantibus.—*L.*—*Ph. Am. v.* 1. *p.* 156. *Ell. Car. v.* 1. *p.* 80. *Torr. Fl. v.* 1. *p.* 235. *Hook. et Arn. in Bot. of Beech. Voy. v.* 1. *p.* 152.

Hab. Canada to Hudson's Bay and the Saskatchawan. *Dr. Richardson. Drummond.* N.W. America. *Douglas. Scouler.*—This is called var. *Virginicum* by the American Botanists; but it seems to differ in no respect from the European plant of the same name.

2. *S. triflorum;* inerme herbaceum procumbens, caule hirsuto, foliis lato-lanceolatis pinnatifidis segmentis ovatis acutis, pedunculis lateralibus bi-trifloris hirsutis.—*Nutt. Gen. Am. v.* 1. *p.* 128.—α. *major;* foliis glabris.—β. *minor;* foliis subtus hirsutis.

Hab. α. About Carlton House Fort. *Dr. Richardson.* β. In the Garden (a weed) of Carlton House Fort, and entrance of Badger's Hole, and thence to Edmonton House. *Drummond.*

2. PHYSALIS. *L.*

Cal. 5-fidus. *Cor.* subrotata. *Stam.* basi corollæ inserta. *Antheræ* longitudinaliter dehiscentes. *Bacca* bilocularis, calyce inflato colorato tecta.

1. *P. Pennsylvanica;* herbacea pubescenti-villosa, foliis ovatis subcordatisve repando-dentatis, floribus pedunculatis subsolitariis nutantibus, calycibus hirsuto-viscosis.—*L.*—*Ph. Am. v.* 1. *p.* 157. *Torrey, Fl. v.* 1. *p.* 234. *Ell. Car. v.* 1. *p.* 273.—P. viscosa. *Jacq.*

Hab. Lake Huron (plentiful). *Dr. Todd.*

2. *P. grandiflora;* herbacea pubescenti-viscosissima, foliis (inferioribus præcipue) longe petiolatis ovato-lanceolatis acuminatis margine undulatis, pedunculis subsolitariis, floribus magnis albis nutantibus, calycibus fructiferis globosis.

Hab. Sandy banks of the Saskatchawan, (sparingly). *Drummond.* Near old encampments where fires have been made, on the shores of Lake Winipeg (*Dr. Richardson*), and Red River (rare). *Douglas.*—I

cannot find the description of any species which corresponds with this. It is remarkable for the great size and white colour of its flowers, which are nearly an inch broad. The whole plant is exceedingly viscid. A bad specimen, apparently of the same species, is found by Mr. Sheppard at Port au persil, below Murray Bay, Canada, and sent to me as *P. lanceolata*, from which, however, I consider it perfectly distinct.

3. NICOTIANA. *L.*

Cal. tubulosus, 5-fidus. *Cor.* infundibuliformis v. hypocrateriformis, limbo 5-fido. *Stigma* capitatum. *Caps.* bilocularis apice 4-fariam dehiscens.—Herbæ *v.* suffrutices. Flores *terminales, racemosi. Br.*

1. *N. nana;* 2–3-uncialis, foliis lanceolatis pilosis, radicalibus quam flores solitarii longioribus, corolla calyce longiore, laciniis obtusis.—*Lindl. in Bot. Reg. t.* 833.

Hab. N.W. America. *A. Menzies, Esq.* (*Herb. nostr.*) Rocky Mountains. *W. Bird, Esq.*—A singularly dwarf and almost stemless species, originally discovered by the excellent Menzies.

2. *N. quadrivalvis;* annua, caule humili erecto diffuse ramoso, foliis lanceolatis breviusculis acutis sessilibus nunc basi auriculatis, calycibus campanulatis tubo corollæ paululum brevioribus subinflatis clausis segmentis acuminatis, corollæ limbo patente planiusculo segmentis acutis, capsula globosa 4-valvis. *Nutt.—Ph. Am. v.* 1. *p.* 141. *Nutt. Gen. v.* 1. *p.* 132.

Hab. Mr. Nuttall was informed that it grew spontaneously on the banks of the Columbia, but probably the following species was there taken for it, if, indeed, the two be really distinct. Pursh gives the present as an inhabitant of the Missouri, and of the Mandan and Ricara Rivers, on the authority of Lewis' Herbarium. The foliage yields an excellent tobacco, but the most delicate kind is prepared by the Indians from the dried *flowers.* (*Ph.*)

3. *N. multivalvis;* herbacea viscido-pilosa, foliis lanceolatis inferioribus petiolatis, floribus axillaribus solitariis, calyce multipartito, capsula multiloculari, corollæ laciniis obtusis alte venosis.—*Lindl. Bot. Reg. t.* 1057.

Hab. Abundant within the recesses of the Rocky Mountains, and westward to the Pacific Ocean, in all dry light soils, *Douglas*, who further observes that it is greatly esteemed by the different tribes for smoking, and is the only vegetable which the natives of the Columbia cultivate.

[Obs. I have received the *Hyoscyamus niger* from Canada, sent by Mrs. Percival. It is doubtless an imported plant.]

Ord. LXVI. OROBANCHEÆ. *Juss.*

1. OROBANCHE. *L.*

Cal. bracteatus, varius. *Cor.* ringens; *labium* sup. integrum v. bilobum: *inf.* trifidum, laciniis subæqualibus. *Stamina* basi planiuscula: *Antheræ* biloculares. *Stigma* sæpissime bilobum. *Caps.* unilocularis, bivalvis, placentifera, placentis 2 v. 4. *Semina* numerosa rugosa.—Plantæ *aphyllæ plerumque parasiticæ.*

* *Calyx cyathiformis,* 3-*dentatus. Antheræ basi obtusæ facie anteriori dehiscentes. Placentæ* 2.—Boschnajakia. *Bunge.*

1. *O. glabra;* glaberrima, caule squamato basi incrassato reticulato, squamis cordatis

acutis (siccitate) intense fuscis opacis, calyce cyathiformi obliquo tridentato, corollæ tubo inflato, labio superiore elongato integro, inferiore abbreviato obscure trilobo. (Tab. CLXVII.) —Boschnajakia glabra. *Bunge, in Herb. nostr.*—Stellara lathræoides. *Fisch. in Herb. nostr.*

Hab. N.W. Coast of America. *Mr. Menzies* (*Herb. nostr.*) Great Slave Lake to Fort Franklin on the Mackenzie River. *Dr. Richardson.*—This, and the following, with *O. Americana*, L. (which I possess from various parts of the United States, and from Mexico,) doubtless constitute a good genus, *Boschnajakia* of Bunge: but I regret I do not know where that author has described it. His specimens from Eastern Siberia are precisely the same as those gathered by Mr. Menzies and Dr. Richardson, and are remarkable for the very imperfect lower lip of the corolla, by which the species is at once distinguished from *O. Americana*, as well as from the following.

Tab. CLXVII.—*Fig.* 1, Fruit; *fig.* 2, Side view of a Flower; *fig.* 3, Calyx; *figs.* 4 and 5, Fruit:—*magnified.*

2. *O. tuberosa;* glaberrima, caule squamato basi tuberoso, squamis ovatis acuminatis (siccitate) intense fuscis opacis, tubere reticulato areolis tuberculiformibus pentagonis, spica densa, floribus unibracteatis, calyce cyathiformi obliquo 3-dentato, corolla tubulosa bilabiata, labiis erectis, superiore ovato integro, inferiore 3-lobo breviore, lobis ovali-oblongis obtusis erectis. (Tab. CLXVIII.)

Parasitica. *Caulis* erectus, simplex, digitalis et ultra, squamosa, basi in bulbum reticulatum incrassatum squamis laxiusculis fusco-nigrescentibus. *Flores* in spicam elongatam congesti erecti, paululum curvati. *Stamina* inclusa. *Filamenta* basi barbata. *Antheræ* ovatæ, erectæ, apiculatæ, facie anteriori dehiscens, rimis longitudinalibus superne junctis. *Germen* ovali-subrotundum: *Stylus* supra curvatus. *Stigma* subquadrilobum.

Hab. N.W. Coast of America. *A. Menzies, Esq.*—This is remarkable for its decidedly tuberous roots, and by that character, as well by the very dark brown opaque (not pale brown and shining) scales of the stem, it may readily be known from the *O. Americana*, L., which has not, I believe, yet been detected in British North America.

Tab. CLXVIII.—*Fig.* 1, Side view of a flower; *fig.* 2, Front view of do.; *fig.* 3, Pistil; *fig.* 4, Stamen; *fig.* 5, Back view of an anther; *fig.* 6, Front view of do.:—*magnified.*

* * *Calyx plerumque* 5-*fidus. Antheræ basi acuminatæ, lateraliter dehiscentes. Placentæ*

4.—Orobanche vera.

3. *O. Ludoviciana;* pubescenti-glandulosa, caule brevi simplici v. subramoso, spica elongata densiflora, calyce inæquali profunde 5-fido bibracteato laciniis linearibus, corollæ intus extusque pubescentis tubo elongato curvato, labiis subæqualibus, sup. bifido inferiore trifido, lobis acutiusculis, staminibus inclusis.—*Nutt. Gen. v.* 2. *p.* 58.

Hab. Plains of the Saskatchawan (rare.) *Drummond.* New Caledonia. *Douglas.*—Mr. Drummond met with the same plant in Texas, (1st Coll. n. 69). Mr. Douglas' specimens are taller, more generally branched, and more hoary with down: the calyx is often 6-cleft, the upper lip of the corolla sometimes nearly entire; but I do not see that they are otherwise different from those of the eastern side of the Rocky Mountains.

* * * *Caulis fasciculatim ramosus, floribus solitariis* (*non spicatis*) *ebracteatis.*—Fasciculatæ.

4. *O. comosa;* pubescens, caule brevi densissime fasciculatim ramoso, ramis squamosis,

calyce 5-partito ebracteato laciniis subulatis, corollæ tubo longe exserto curvato labiis elongatis recurvis, superiore oblongo bifido, inferiore tripartito laciniis lineari-oblongis apice bidentatis, antheris pilosis. (TAB. CLXIX.)

HAB. Banks of the Columbia. *Douglas, Dr. Scouler, Dr. Gairdner.*—Stem short, with broad scales bearing copious fasciculated, or almost corymbose branches, which have subulate scales.

TAB. CXLIX.—*Fig.* 1, Flower; *fig.* 2, Stamens; *fig.* 3, Pistil; *fig.* 4, Capsule:—*magnified.*

5. *O. fasciculata;* pulverulento-pubescens, caule brevi fasciculatim ramoso, ramis seu pedunculis nudis unifloris, calyce 5-fido ebracteato lobis triangularibus acutis, corollæ tubo longe exserto curvato, labiis erectis concavis brevibus obtusis, superiore bifido, inferiore trifido lobis integris, filamentis glandulosis, antheris glabris. (TAB. CLXX.)—*Nutt. Gen. v. 2. p. 59.*

HAB. About Carlton House Fort on the Saskatchawan. *Dr. Richardson.* Columbia. *Dr. Scouler.*—Well distinguished from the following by Mr. Nuttall.

TAB. CLXX.—*Fig.* 1, Flower; *fig.* 2, Stamen; *fig.* 3, Pistil:—*magnified.*

6. *O. biflora;* pubescenti-glandulosa, caule brevissimo parce fasciculatim ramoso, ramis seu pedunculis valde elongatis nudis unifloris, calyce profunde 5-fido lobis subulato-acuminatis, corollæ tubo longe exserto curvato, labiis erecto-patentibus concavis, superiore bifido, inferiore trifido, lobis integris, filamentis inclusis glabris, antheris ciliatis.—*Nutt. Gen. v. 2. p. 59.*—O. uniflora. *L.—Mich.—Ph.—Ell.*

HAB. Canada. *Ph.* Newfoundland. *Miss Brenton.*

2. EPIPHEGUS. *Nutt.*

Polygama. *Cal.* abbreviatus, 5-dentatus. *Cor.* floris *sterilis* ringens, compressa, 4-fida, labio inferiore plano: floris *fertilis* minuta 4-dentata, decidua. *Caps.* truncata, obliqua, 1-locularis, subbivalvis hinc dehiscens.—Aphylla, *parasitica ad radices* Fagi.—*Nutt.*

1. *E. Americana. Nutt. Gen. Am.* v. 2. p. 60.—O. Virginiana. *L.—Mich. Ph. Ell.*

HAB. Canada. *Mr. Cleghorn, Mrs. Percival, Mrs. Sheppard.* New Brunswick. *Mr. Kendal.*

ORD. LXVII. SCROPHULARINEÆ. *Juss.*

TRIB. VERBASCEÆ. *Benth. in Bot. Reg. sub folio* 1770.

1. VERBASCUM.* *L.—Benth. l. c. n.* 1.

1. *V. Thapsus. L.—Ph.—Ell.—Bigel.—Torr.*

HAB. Canada. *Mrs. Percival.* Lake Huron. *Dr. Todd.* Saskatchawan. *Dr. Richardson, Drummond.*—Probably introduced; yet both Pursh and Torrey observe that it springs up in great abundance in

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* A desire not to extend the present work beyond the two volumes announced in the prospectus, has induced me to omit the generic and specific characters, and particular references of well-known plants. Without such an arrangement, it would be impossible to include all the species, even of phænogamous plants, within the prescribed limits; the number having considerably accumulated since the commencement of the work.

newly-cleared lands, especially after the woods have been destroyed by fire, though not a plant had previously been seen within the compass of a hundred miles.

2. *V. Blattaria. L.—Mich.—Pursh.—Ell.—Torr.*

Hab. Lake Huron (abundant). *Dr. Todd.*

2. SCROPHULARIA. *L.—Benth. l. c.*

1. *S. Marylandica. L.—Ph. Ell.*—S. nodosa, *var. Mich.*

Hab. Canada. *Mrs. Percival*, &c., and thence to the Pacific. *Douglas, Dr. Scouler.*

Trib. Antirrhineæ. *Chavannes. Benth. l. c.*

3. LINARIA. *Tourn. Benth. l. c.*

1. *L. vulgaris. Mœnch.*—Antirrhinum Linaria. *L.—Nutt.—E. Bot. t.* 658.

Hab. Canada, naturalized. *Mrs. Sheppard. Mrs. Percival.*

2. *L. Canadensis;* erecta glabra glauca, foliis linearibus obtusis, floribus racemosis, labio inferiore maximo palato obsoleto, calcare subulato, stolonibus procumbentibus.—*Spreng.—Hook. Bot. Mag. t.* 3473.—Antirrhinum Canad. *L.—Ph.—Ell.*

Hab. Canada. *Ph.* Plentiful in the swampy soils between Fort Vancouver and the Grand Rapids. *Douglas.*

Trib. Salpiglossideæ. *Benth. l. c.*

4. COLLINSIA. *Nutt.*

Cor. basi supra gibba, limbo valde irregulari 5-fido. *Caps.* globosa, 4-valvis. *Benth l. c.*

1. *C. grandiflora;* caule erecto, foliis lineari-oblongis basi angustatis, pedunculis verticillatis floribus brevioribus, corollæ laciniis dilatatis retusis, calyce glabro corolla duplo breviore.—*Lindl. Bot. Reg. t.* 1107.

Hab. Dry gravelly banks of the Columbia. *Douglas. Dr. Scouler. Dr. Gairdner.* Wallamet River. *Mr. Tolmie.*—Probably the *C. violacea* of Nutt., of which I possess specimens from the author, is not distinct from this. The form of the leaves, and shorter peduncles, will readily distinguish it from *C. verna.*

2. *C. pauciflora;* caule prostrato, foliis oblongo-lanceolatis infimis ovatis petiolatis, pedunculis axillaribus solitariis floribus multo longioribus, corollæ laciniis subacutis integris, calyce pubescente corollæ subæquali.—*Lindl. Bot. Reg. t.* 1082.

Hab. Moist places of the Columbia, from its source to the Pacific. *Douglas. Dr. Scouler. Dr. Gairdner.* Saskatchawan. *Dr. Richardson.* Lake Winipeg. *Captain Back.*

Trib. Digitaleæ. *Benth. l. c.*

5. CHELONE. *L.—Benth.*

Cor. labium superius amplum concavum. *Stamen* quintum præsens sterile. *Semina* membranacea alata. *Benth. l. c.*

1. *C. glabra;* foliis ovato-lanceolatis inæqualiter serratis, floribus dense spicatis, corollæ limbo contracto.—*L.—Mich. Ph. Nutt. Ell.*—et *var.* β. lanceolata. *Nutt.*

Hab. α. and β. Canada. Newfoundland. *Dr. Morison.* New Brunswick. *Mr. Kendal.*

2. *C. ramosa;* foliis ovatis acuminatis serratis, superioribus amplexicaulibus cordatis, pedunculis nudis trifloris pubescentibus. *Dougl. in Bot. Reg. t.* 1211.

Hab. Mountain woods near springs and rivulets, N.W. America. *Douglas* (*Bot. Reg.*)

6. PENTSTEMON.* *L'Hérit. Benth.*

Cor. laciniæ subplanæ. *Stamen* quintum præsens sterile. *Semina* nuda. *Benth. l. c.*

1. *P. glandulosus;* elatus glanduloso-pubescens, foliis radicalibus ovatis grosse dentatis, caulinis cordatis acutis amplexicaulibus subintegerrimis, calyce capsulam glabram subæquante, corolla speciosa, filamenti rudimento glabro.—*Lindl. Bot. Reg. t.* 1262.

Hab. Undulating ground of Lewis and Clarke's River, near the *Forks*, among small stones (not common). *Douglas.*—Mr. Douglas' native specimens are in fruit. The flowers as shown in the Bot. Reg. are very large, and pale purple.

2. *P. serrulatus* (Menz. ms.); caule glabro, foliis omnibus argute serratis superioribus ovatis subhastatis, panicula bi-trifurcata, filamento sterili barbato. *Sm. in Rees' Cycl. n.* 5.

Hab. N.W. Coast of America. *A. Menzies, Esq.*—My specimens of this are not very perfect; but it seems to have many characters in common with the following.

3. *P. diffusus;* caule ramoso, foliis ovato-oblongis glabris inæqualiter serratis, pedunculis axillaribus multifloris, calycibus turbinatis laciniis laceris aristatis. *Dougl. in Bot. Reg. t.* 1132.

Hab. Common on limestone Rocks of the Columbia at the Grand Rapids. *Douglas.*—Flowers numerous, large, purple.

4. *P. venustus;* caule suffruticoso erecto glabro, foliis sessilibus rectis ovato-lanceolatis acuminatis denticulatis glabris, floribus paniculatis, corollis ventricosis ciliatis, calycibus glaberrimis, antheris pilosis. (*Lindl.*)—*Dougl. in Bot. Reg. t.* 1309.

Hab. Gravelly channels of rivulets near the Blue Mountains and near the source of the Wallawalla River.—This fine species, with large pale purple flowers, bears the name of *P. suffruticosus*, Dougl. ms. in my herbarium. Dr. Lindley points out its near affinity with *P. diffusus*, from which, he observes, it differs "caule magis erecto, foliis sessilibus longioribus rectioribus, corollæ colore obscuriore, calycibusque glaberrimis."

5. *P. glaucus;* caule herbaceo glabriusculo, foliis omnibus glaberrimis radicalibus lanceolatis petiolatis integerrimis denticulatisve, caulinis bracteisque ovato-lanceolatis sessilibus amplexicaulibus, panicula thyrsoidea, corollis inflatis calycibusque extus glanduloso-pubescentibus, filamento sterili porrecto barbato. (*Lindl.*)—*Grah. in James. Journ. July*, 1829. *p.* 348. *Bot. Reg. t.* 1286.—P. gracilis. *Bot. Mag. fol.* 2945. as to the *description*, not the *figure.*

Hab. According to Dr. Graham, the seeds of this were sent to Edinburgh by Dr. Richardson, from Mr. Drummond's collection; but it does not appear to exist in the Herbarium. By some misunderstanding, I

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* Of this difficult, and now (mainly by the labours of Mr. Douglas) extensive genus, I gladly avail myself of the characters drawn up by Dr. Lindley, in the Bot. Reg., from living specimens of the majority of the species. The distinguishing marks are with difficulty recognizable in dried specimens.

was induced to believe that Dr. Graham's plant was the same as one of Mr. Drummond's, of which I then had a drawing, (*P. gracilis*, Nutt.); and I inadvertently gave Dr. Graham's description with that species. With *P. glaucus* I am entirely unacquainted, unless it be, as I cannot help suspecting, from the figure and the two lines of hairs described by Dr. Graham within the under lip, a variety of *P. pubescens*. Flowers varied with white and purple.

6. *P. ovatus;* herbaceus, floribus caule pedunculisque glanduloso-pilosis, foliis cordato-ovatis amplexicaulibus glabris grosse dentatis, inferioribus longe petiolatis, corollis tubulosis, filamento sterili apice barbato basi unidentato.—*Dougl. in Bot. Mag. t.* 2903.

Hab. Grand Rapids of the Columbia. *Douglas.* Wallamet River. *Mr. Tolmie.*—Flowers moderately large, of a bright ultramarine blue.

7. *P. pruinosus;* foliis cæsiis, radicalibus petiolatis integris dentatisve, caulinis dentatis sessilibus, bracteis superioribus integris, floribus verticillatis, calycibus bracteisque villosis, corollis glabris calyce duplo longioribus, limbi laciniis rotundatis integris. (*Lindl.*)—*Dougl. Bot. Reg. t.* 1280.

Hab. Junction of the Oakanagan River, and on the high banks of the Columbia, near the Priest's Rapid. *Douglas.*—Flowers rather small, brilliant blue.

8. *P. Richardsonii;* caule herbaceo, foliis sessilibus pinnatifidis, calycibus glanduloso-pubescentibus, laciniis ovatis acutis, corollæ labio superiore bilobo, inferiore trilobo transverso, pedunculis racemosis bi-trifloris. (*Lindl.*)—*Dougl. in Bot. Reg. t.* 1121. *Hook. Bot. Mag. t.* 3391.—*β.* minor.

Hab. On the Columbia and its tributary streams. *Douglas.*—Flowers large, purple.

9. *P. triphyllus;* herbaceus humilis, foliis ternis quaternisve glabris incisis, inferioribus oblongis, floralibus integerrimis, pedunculis bi-trifloris calycibusque arachnoideis, corollæ aciniis oblongis obtusis, labii inferioris æqualibus. (*Lindl.*)—*Dougl. in Bot. Reg. t.* 1246.

Hab. Rocks of the River Wallawallah, near the base of the Blue Mountains, N.W. America. *Douglas.*—Flowers much smaller than the preceding, bluish purple.

10. *P. Scouleri;* suffruticosus, foliis obovato-lanceolatis serrulatis supremis integerrimis obtusis, floribus solitariis racemosis, corollis (speciosis) ventricosis serrulatis, antheris lanatis. (*Lingl.*)—*Dougl. in Bot. Reg. t.* 1277.

Hab. N.W. Coast of America. *Menzies* in Herb. nostr. Rocks and mountains about the Kettle Falls, and near the sources of the Columbia. *Douglas.*—Flowers large, pale purple. In drying, the whole plant becomes black.

11. *P. deusatus;* caule subsimplici ascendente glabro, foliis inciso-serratis, radicalibus ovato-oblongis, proximis spathulatis, caulinis oblongis acutis sessilibus, supremis subintegris, calycibus glabris, limbi plani laciniis retusis supremis minoribus. (*Lindl.*)—*Dougl. in Bot. Reg. t.* 1318.

Hab. Lewis and Clarke's River, between the Forks and its confluence with the Columbia, and at the junction of Spokan River. *Douglas.*—Flowers pale sulphur-yellow.

12. *P. confertus;* foliis integerrimis glabris, radicalibus spathulatis acuminatis longe pe-

tiolatis, superioribus sessilibus ovatis acuminatis, verticillis multifloris confertis subaphyllis, corolla calyce longiore. (*Lindl.*) *Dougl. in Bot. Reg. t.* 1260.

Hab. Mountain Pine woods, in dry sandy soils, between Salmon River and the Kettle Falls of the Columbia, and in the valleys of the Rocky Mountains, at an elevation of 7000 feet above the level of the sea. *Douglas.*—*Flowers* small, crowded, sulphur-yellow.

13. *P. procerus;* herbaceus, caule erecto stricto subsimplici, foliis lanceolatis integerrimis, inferioribus petiolatis superioribus sessilibus subconnatis, floribus verticillato-spicatis, calycis segmentis membranaceo-laciniatis mucronatis, filamento sterili edentulo. —*Dougl. in Bot. Mag. t.* 2954. *Grah. in Ed. Phil. Journ. July,* 1829.

Hab. Plains of the Saskatchawan to the Rocky Mountains. *Dr Richardson. Drummond.* Banks of the Columbia, between Fort Vancouver and the Grand Rapids. *Douglas.*—Wallamet River. *Mr Tolmie.*—Habit of *P. confertus,* but the flowers are blue-purple, varied with a redder tinge. Mr Douglas' specimens are very luxuriant, 2-3 feet high, those from the Saskatchawan 1 foot to 16 inches.

14. *P. attenuatus;* caule stricto apice piloso, foliis radicalibus ellipticis acutis petiolatis, superioribus ovato-oblongis amplexicaulibus sessilibus, omnibus glabris integerrimis, panicula stricta, calycibus corollisque pubescentibus, capsulis glaberrimis. (*Lindl.*) *Dougl. in Bot. Reg. t.* 1295.

Hab. Mountains of Lewis and Clark's River. *Douglas.*—Flowers moderately large, pale-yellow.—My specimens, however, under this name from Douglas, have decidedly purple flowers: and are perhaps rather referrible to the following.

15. *P. acuminatus;* caule ascendente foliisque glabris valde glaucis, horum radicalibus ovato-oblongis longe petiolatis integerrimis subcoriaceis, caulinis bracteisque cordatis acuminatis sessilibus amplexicaulibus, fasciculis florum subsessilibus, sepalis acuminatis glaberrimis, corollis tubo infundibulari fauce inflata, limbi laciniis latis retusis. (*Lindl.*) *Dougl. in Bot. Reg. t.* 1285.—β, *minor.*—P. nitidus. *Dougl. in Hook. Herb.*

Hab. Barren sandy plains of the Columbia. *Douglas.*—β. Red Deer and Eagle Hills, and other dry places of the Saskatchawan and Assinaboine and Red Rivers. *Dr Richardson. Douglas.*—Flowers rather large, bright purple.

16. *P. pubescens;* caule pubescente erecto, foliis lato-lanceolatis lanceolatisve dentato-serratis infimis subspathulatis supremis basi subcordatis, panicula laxa erecta, pedunculis plurifloris, corollæ tubo elongato, labio superiore bifido breviore, inferiore porrecto trilobo intus filamentoque sterili apice dense fulvo-barbatis. *Ait. Hort. Kew. v.* 2. *p.* 360. *Mich.* —*Ph.*—α, latifolius. *Sims, Bot. Mag. t.* 1424.—β, angustifolius.

Hab. Upper Canada. *Lady Dalhousie.* Lake Huron. *Dr Todd.*—Flowers white suffused with purple and red. I cannot distinguish the *P. lævigatus* specifically from the present. Nuttall justly observes, that both are hairy (they have two bright yellow tufts) on the base of the lower lip within: as also has *P. glaucus. Grah.*

17. *P. gracilis;* caule erecto gracili, foliis magis minusve serratis glabris, inferioribus spathulatis caulinis lanceolatis basi subcordatis, panicula laxa stricta pubescente, pedunculis plurifloris, corollæ tubo elongato labio superiore bifido breviore, inferiore porrecto

3-lobo intus nudo, filamento sterili fulvo-barbato.—*Nutt. Gen. v. 2. p. 522. Hook. Bot. Mag. t. 2945. (excl. descr. et syn. P. glauci.)*

Hab. Red River and the Saskatchawan. *Dr Richardson. Drummond. Douglas.*—Flowers long, purplish-blue, slightly tinged with green beneath.

18. *P. speciosus;* glaucus, glaber, foliis integerrimis; radicalibus spathulatis; caulinis lanceolatis subundulatis sessilibus, floribus verticillatim paniculatis, corollæ lobis subæqualibus rotundatis, rudimento glaberrimo. (*Lindl.*)—*Dougl. in Bot. Reg. t.* 1270.

Hab. On the high sandy banks of the Columbia, near Oakanagan, and on Spokan River. *Douglas.*—A splendid species, with very brilliant blue flowers slightly tinged with blush.

19. *P. Tolmiei;* humilis herbaceus cæspitosus glaberrimus, foliis lanceolatis acutis subcoriaceis integerrimis marginatis sessilibus sub lente impresso-punctatis inferioribus petiolatis, verticillis florum racemosis densis, pedicellis plurifloris brevibus, corollis parvis, limbi laciniis acutis subæqualibus, capsulis fuscis calycem æquantibus.

Hab. Mt. Rainier, N. of the Columbia. *Mr Tolmie.*—A very distinct species, scarcely a span high, with woody horizontal roots, sending out copious fibres below, and above numerous tufted stems. The specimens are all in fruit: one withered corolla alone remaining, which is scarcely half-an-inch long, with acute segments to the limb. Inflorescence almost spicate.

20. *P. frutescens;* caule fruticoso, ramis angulatis superne pubescentibus, foliis lanceolatis obsolete denticulatis sessilibus glabriusculis, racemis terminalibus subcorymbosis, filamento sterili longitudinaliter barbato. (*Ph.*)—*Lamb. in Linn. Trans. v.* 1. *p.* 259. *Ph. Am. v.* 2. *p.* 428. Digitalis dasyantha. *Pal. MS.* (*fide Lamb.*)

Hab. Unalaschka. *Pallas.* North-west coast. *Lewis.* (*fide Pursh.*)—A most beautiful shrubby plant, with leaves 3-4 inches long and 1 inch broad. I know not in what particular part of the N.W. coast Lewis gathered it. Pallas is reported to have found it also in Kamstchatka; but notwithstanding I have received several collections from these three stations, I have never been so fortunate as to obtain a specimen; nor have I ever seen one.

21. *P. Menziesii;* fruticosus humilis vage ramosus, foliis glabris obovato-cuneatis obtusis coriaceis apicem versus serratis brevi-petiolatis, racemis terminalibus, floribus speciosis oppositis tubuloso-campanulatis.—Gerardia fruticosa. *Ph. Am. v.* 2. *p.* 423. *t.* 18.

Hab. Nutka. *A. Menzies, Esq.* In great abundance in the Pine forests of the Rocky Mountains. *Lewis.* (ex. Pursh.) I am not sure how far Mr Lewis' stations for plants, as given in Pursh, are to be depended upon. Mr Douglas does not appear to have found this in any of the numerous Pine forests of the Rocky Mountains which he traversed; and my only specimens are from Nutka, where the fine species was gathered by Mr Menzies so long ago as 1788.—Flowers as large as in the preceding species.

22. *P. Douglasii;* fruticosus humilis, ramis subfastigiatis erectis, foliis glaberrimis obovato-lanceolatis acutis coriaceis integerrimis sessilibus, racemis terminalibus, pedicellis oppositis, capsulis nigrescentibus calyce paululum longioribus.

Hab. Blue Mountains of N.W. America. *Douglas.*—Allied to the last, but quite distinct. Leaves $\frac{1}{2}$ to $\frac{3}{4}$ of an inch long, almost black in drying, the old withered ones pale yellow-brown. Calycine segments ovato-lanceolate, slightly serrated, much paler than the dark-coloured capsules. There are no flowers on any of my specimens.

23. *P. Gairdneri;* fruticosus humilis minute puberulus, ramis subfastigiatis erectis strictis, foliis alternis lineari-spathulatis (supremis linearibus) coriaceis integerrimis sessilibus, racemis elongatis, pedicellis alternis (!) bracteatis, capsulis rufo-fuscis calyce concolori paululum longioribus.

Hab. Blue Mountains of N.W. America, where it was gathered by *Mr Douglas*, but communicated to me by Dr Gairdner.—The above four well-marked species constitute a very natural groupe of *Pentstemon*, or probably a distinct genus, of humble growth and with decidedly fruticose stems; the lower part quite woody. The present individual differs remarkably from the rest, in the leaves and pedicels being alternate; but the capsule is altogether that of *Pentstemon*, and the mode of growth similar to the preceding species. I have named it in compliment to Dr Meredith Gairdner, an accomplished naturalist and surgeon in the H. B. C. possessions on the Columbia, whence he has lately been obliged to visit the Sandwich Islands for the recovery of his health.

Trib. Gratioleæ. *Benth. l. c.*

7. MIMULUS. *L.*

1. *M. guttatus, De Cand.—Hook. et Arn. in Bot. of Beech. Voy. p.* 152.—M. luteus. *Ph.* 1. *p.* 426. (*excl. syn.*) *Curt. Bot. Mag. t.* 1501.

Hab. Moist woods, N.W.C. from California to Unalaschka; and from the sea to the mountains.—This is readily known from the Chilian *M. luteus*, now common in our gardens, by the more copious flowers, of which the floral leaves are so small that they constitute a bracteated raceme, by the shorter peduncles and broader and more inflated calyx when in fruit.

2. *M. moschatus* (Dougl.); caule diffuso foliisque petiolatis ovatis dentatis glanduloso-villosis, pedunculis geminis foliis brevioribus, calycibus tubulosis fructiferis oblongis dentibus lanceolatis inæqualibus, corollæ limbo subæqualiter 5-lobo lacinia inferiore pubescente.—*Lindl. Bot. Reg. t.* 1118.

Hab. Moist springs about Fort Vancouver. *Douglas.*

3. *M. propinquus* (Lindl.); annuus, undique glanduloso-pubescens, caule decumbente tereti, foliis ovatis dentatis supremis sessilibus, pedunculis axillaribus folio brevioribus pubescentibus, corollæ lobis obtusis: fauce pubescente; tubo calyci æquali.—*Lindl. Bot. Reg. t.* 1330.

Hab. N.W. America, according to Dr Lindley, who considers it to have sprung from seeds sent by Mr Douglas; but there is no such plant in his Herbarium, nor among his notes, and it has so striking a resemblance with *M. parviflorus* from Chili (*Bot. Reg. t.* 874), that I cannot but suspect that there is some mistake as to its origin. Mr Bentham quotes the figure doubtfully under *M. glabratus, H. B. K.*, a native of Mexico.

4. *M. floribundus* (Lindl.); patenti-pilosus diffusus viscosus gracilis basi præcipue ramosus, foliis cordatis petiolatis dentatis, pedunculis axillaribus solitariis ex omnibus fere foliis iisque longioribus, calycibus ovatis 5-carinatis dentibus brevibus subæqualibus.—*Lindl. Bot. Reg. t.* 1125.—*β minor.* M. peduncularis.* *Dougl. Mst.*

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* I may remark, that Mr Bentham, whose opinion is so important in this family, considers the *M. peduncularis* of Dougl. a good species, to which, in a note in his "Scroph. Ind." he gives the following character:—"pubescens humilis, foliis petiolatis ovatis acutis subdentatis basi acutis rotundatisve, calycibus (parvis) ovato-tubulosis, dentibus brevibus acutis subæqualibus."

Hab. Moist rocks of the Columbia, towards the mountains. *Douglas.*

5. *M. alsinoides* (Dougl. mst.); gracilis glaberrimus diffusus, foliis omnibus petiolatis ovatis cordatisque sinuato-dentatis, pedunculis axillaribus unifloris folio duplo triplove longioribus, calycibus ovatis dentibus perbrevibus subæqualibus, corolla flava maculis purpureis.—β. *minimus*; caule subnullo 1-3-floro. *Benth. in Scroph. Ind. adnot. p.* 29.

Hab. N.W. Coast. *Menzies* (*in Herb. nostr.*). Tongue Point and other moist rocky places of the Columbia. *Douglas. Dr Scouler.*

6. *M. Scouleri;* glaberrimus, caule erecto basi ramoso, foliis petiolatis lanceolatis dentatis 5-nerviis floralibus brevioribus subovatis, pedunculis folio brevioribus, calycibus demum inflatis.

Hab. Columbia River. *Dr Scouler.*—There are no flowers to these specimens, but the leaves are very different from any of the preceding in shape, and very unlike the *M. ringens* in nervation and in the calyx.

7. *M. roseus* (Lindl.); erectus, pubescenti-viscidus, foliis ovato-acuminatis 5-nerviis sessilibus inferioribus præcipue dentatis subæqualibus, corollæ laciniis lato-oblongis obtusis subæqualibus.—*Lindl. Bot. Reg. t.* 1591. *Hook. Bot. Mag. t.* 3353. M. Lewisii. *Ph. Am. 2. p.* 427 ?—β. *glabrior.*

Hab. β. Mountains N. of the Smoking River (*Drummond*); apparently very rare, or too early for the blossoming, for there are only two specimens in the collection, and only one in flower; and these are more glabrous than Mr Douglas's specimens, which, as far as I know, were all gathered in California.—I think the *M. Lewisii, Ph.* is probably a dwarf state of this species.

8. *M. ringens.* L.—*Bot. Mag. t.* 426. *Ph. Am. 2. p.* 426.

Hab. Throughout Canada to the Saskatchawan.

9. *M. primuloides* (Benth.); caule perbrevi parce hirsuto stolonifero subulato, foliis sessilibus obovatis nervosis obscure dentatis glaberrimis, pedunculo elongato solitario terminali, calycibus tubulosis breviter dentatis.—*Benth. l. c. p.* 29.

Hab. N.W. Am. *Douglas* (last journey).—A very beautiful little plant, with a habit something like *Pyrola uniflora.*

8. GRATIOLA. *L.*

1. *G. Virginica.* L.—*Ph. Am.* 1. *p.* 12.

Hab. Canada. *Mrs Percival.* Lake Winipeg. *Dr Richardson.* Plains of the Red River; and sandy soil on the N.W. Coast. *Douglas.* Walla-Wallah River. *Tolmie.*

9. LIMOSELLA. *L.*

1. *L. aquatica.* L.—*E. B. t.* 357.—*L. subulata. Eat. Am. Bot.*

Hab. York Factory, Hudson's Bay. *Drummond.*—This is quite the same with our European plant. Eaton's *L. subulata,* according to specimens received from Mr Greene, only differs in its narrower leaves, in which state it is sometimes found in Europe.

TRIB. VERONICEÆ. *Benth. l. c.*

10. VERONICA. *L.—Benth.*

1. *V. alpina. L.—E. Bot. t.* 484.—*β. Wormskioldii ;* elatior simplex, foliis multo majoribus, calyce capsulaque glanduloso-hirsutissimis. *Hook. Bot. Mag. t.* 2975. *var.* Unalaschkensis. *Cham. et Schlecht. in Linnæa. v.* 2. *p.* 556.—V. Wormskioldii. *R. et S.*

HAB. *M. Rainier.* N. of the Columbia R. *Mr Tolmie.*—*β.* Alpine Prairies of the Rocky Mountains. *Drummond.* Labrador. *Dr Morison.* Unalaschka. *Chamisso.*—It is frequent in Greenland.

2. *V. nutans* (Bong.); corymbo terminali caule simplicissimo nutante, foliis sessilibus ovatis serratis acutiusculis, capsula subglabra calycem subæquante.—*Bong. Veget. de Sitcha. p.* 39.

HAB. Sitcha, N.W.C. *Bongard.*—The specimen which M. Bongard has kindly sent to me appears to differ from *V. alpina β.* only in being more glabrous, and in having the upper part of the stem drooping ; but that author rather compares it with *V. Stelleri,* to which he says it is " maxime affinis, sed distincta caule semper nutante, corymbo paucifloro, floribus triplo minoribus, corolla intus glabra, capsula subglabra (nec pilosa), calycem vix superante (nec sesquilongiore), stylo calyce multo breviore terminata."

3. *V. Stelleri* (Pall.); caule simplici hirsuto, foliis sessilibus cordatis serrato-crenatis obtusis, racemo brevi, bracteis crenatis pedicello brevioribus, calyce hirsuto.—*Link. in R. et S. Syst. Veg. v.* 2. *Mant. p.* 102. *Cham. et Schlecht. in Linnæa.* 2. *p.* 557.

HAB. Unalaschka. *Chamisso.*—The habit and leaves are those of *V. Ponæ,* and the capsule similar to that of *V. alpina β.*, from which the foliage and longer style, and larger and more pedicellated flowers, will distinguish it.

4. *V. serpyllifolia. L.—E. B. t.* 1075. *Ph. Am.* 1. *p.* 11.

HAB. From Unalaschka in the north, throughout British America (in the Rocky Mountains, becoming var. *humifusa*), and thence south, throughout the whole Continent of America, to the Falkland Islands.

5. *V. Beccabunga. L.—E. B. t.* 635. *Ph. Am.* 1. *p.* 11.

HAB. Canada to Norway House.

6. *V. Anagallis. L.—E. B. t.* .781 *Ph. Am.* 1 *p.* 11.

HAB. Throughout Canada, to the Rocky Mountains. *Drummond.* N.W.C. *Douglas.* Sitcha. *Bongard.*

7. *V. scutellata. L.—E. B. t.* 782. *Ph. Am.* 1. *p.* 11.

HAB. Canada to English River. *Dr Richardson.* Abundant in N.W. Am. *Douglas. Tolmie.*

8. *V. Chamdrys. L.—E. B. t.* 623.

HAB. Canada. *Mrs Sheppard.*—Scarcely indigenous.

9. *V. peregrina. L.—F. Dan. p.* 407. *Ph. Am.* 1. *p.* 11. *Cham. et Schlecht. in Linnæa.* 2. *p.* 559.

HAB. Throughout Canada to Mackenzie River. *Dr Richardson.* Common on the margins of lakes, and still streams in N.W. Am. *Douglas. Dr Scouler.*—This, like the *V. serpyllifolia,* extends over the whole of the New World, and I possess specimens from the extreme point of S. America, gathered by Mr Darwin. Chamisso and Schlechtendal refer to it, as synonyms, *V. Romana.* L., *V. Xalapensis, Chilensis,* and *Peruviana.* Humb., *V. Marylandica.* Murr., *V. Caroliniana.* Wall., and *V. carnosula.* Lam.

11. WULFENIA. *Jacq.*

Cal. 4-5-partitus. *Cor.* tubulosa subbilabiata, fauce hirsuta, labio superiore integro, inferiore 3-lobato. *Stam.* 2, labio superiorie adpressa. *Stylus* simplex; *stigmate* obtuso. *Capsula* compressa, bivalvis, superne ad marginem utrinque dehiscens. *Semina* plurima. —Herbæ *foliis plerisque radicalibus petiolatis.* Flores *racemosi, bracteati.*

1. *W. reniformis* (Dougl. Mst.); foliis radicalibus longe petiolatis reniformibus crenatis, scapo bracteato laxe racemoso, calycibus 4-partitis longe ciliatis. (Tab. CLXX.) *Benth. in Scroph. Ind. p.* 46. (*in not.*)

Rhizoma perennis, repens, fibras copiosas emittens. *Folia* radicalia longe petiolata, coriaceo-membranacea, glabra vel pilis deciduis sparsis hirsuta, reniformia v. cordato-reniformia, crenata. *Petiolus* digitalis, glabra vel deciduo-pilosa. *Scapus* florifer longitudine foliorum, demum fructiferus elongatus, foliis subduplo longior, erectus, nudus vel nudiusculus. *Flores* in racemum laxum dispositi, bracteati, bracteis ovatis pedicello brevioribus. *Calyx* 4-partitus, laciniis ovato-lanceolatis acutis planis appressis longe ciliatis. *Corolla* calyce duplo longior, subinfundibuliformi-tubulosa, cærulea, limbo subbilabiato, labio superiore integro, inf. 3-lobato, lobis subæqualibus. *Stamina* 2, fauci hirsutæ inserta, filamentis subulatis exsertis. *Antheræ* magnæ, dorso affixæ, biloculares. *Ovarium* subglobosum compressum. *Stylus* filiformis, tubo corollæ brevior. *Stigma* obtusum. *Capsula* elliptica nigra membranacea obscure reticulata compressa, bilocularis; superne ad marginem utrinque dehiscentes, ut in *Veronicis* plerisque. *Dissepimentum* e marginibus introflexis valvarum arcte cohærentibus.

Hab. Common about the Grand Rapids of the Columbia, and in the vallies of the Blue Mountains. *Douglas.* Woods N.E. of Fort Vancouver. *Dr Gairdner.*—A genus differing in habit, but in fructification nearly allied to *Veronica.*

Tab. CLXX. Wulfenia reniformis.—*Fig.* 1, Flower; *f.* 2, the same laid open; *f.* 3, Capsule; *f.* 4, Transverse section of do. below the middle:—*magnified.*

12. GYMNANDRA. *Pall.*

Calyx bipartitus, spathaceus v. 0. *Cor.* labium superius integrum: inferius 2-3-partitum. *Stam.* 2 ad basin labii superioris, exserta. *Capsula* bilocularis, "loculis monospermis."—Herbæ *siccitate nigricantes.* Folia *radicalia petiolata, caulina superiora bracteiformia.* Flores *spicati densi, bracteati.*

1. *G. Gmelini* (Cham. et Schl.); foliis radicalibus subrotundo-aut elongato-ovatis basi parum attenuatis obtusiuculis grosse inæqualiter crenatis, staminibus labio superiore duplo brevioribus, stylo illo breviore. *Linnæa,* 2. *p.* 561.—G. ovata. *Willd. Mag. Ges. Nat. t.* 10. *f.* 8.—G. reniformis. *Willd. l. c.*—G. borealis. var. *Pall.*—Lagotis glauca. *Gærtn.*—Bartsia Gymnandra. *Willd.*—*Ph. Am.* 2. *p.* 430.

Hab. Unalaschka. *Chamisso.*—Whole plant very glabrous, succulent, and thick. If this is really the plant of Lewis, mentioned by Pursh, it is also found in the Columbia.

2. *G. Stelleri* (Cham. et Schlecht.); foliis radicalibus oblongis utrinque infra vero magis attenuatis acutis inæqualiter obtuse serratis, staminibus fere longitudine labii superioris, stylo illo longiore.—*Linnæa,* 2. *p.* 563. *Hook. et Arn. in Bot. of Beech. Voy. p.* 128. —G. *minor,* G. *dentata et* G. *gracilis. Willd. l. c. p.* 393, *et seq. t.* 9.—G. borealis. *Pall.*

Hab. Bay of St Lawrence. *Chamisso.* Coast of the Artic Sea. *Dr Richardson.* Immarook, Kotzebue's Sound. *Lay and Collie.*—Glabrous like the last.

3. *G. rubra* (Dougl. mst.); foliis radicalibus longe petiolatis late ovatis subcordatis obtusis profunde duplicato-crenatis, caulinis minoribus superioribus sessilibus sensim in bracteis ovatis abeuntibus, spica gracili densa tota lanato-hirsuta, calycibus nullis, corollis parvis, staminibus styloque longe exsertis. (Tab. CLXXI.)

Radix e fibris crassiusculis, simplicibus, descendentibus. *Caulis* erectus, pedalis, foliosus, simplex, superne præcipue tomentosus. *Spica* elongata, bracteata. *Bracteæ* flore longiores, inferiores majores, lanatæ. *Calyx* omnino nullus. *Corolla* parva, subcoriaceo-carnosa, rubra? extus intusque hirsuto-lanata; tubo brevi, limbo profunde quadripartito, lacinia superiore majore; 3 inforioribus minoribus inæqualibus omnibus erectiusculis. *Stamina* 2, longe exserta. *Filamenta* glabra. *Antheræ* magnæ. *Ovarium* ovatum lanatum. *Stylus* gracilis stamina superans. *Stigma* obtusum.

Hab. Banks of M'Gillivray's and Flathead Rivers, near the Kettle Falls of the Columbia, and in the valleys of the Rocky Mountains. *Douglas.*—The absence of a calyx, the succulent nature of the corolla, together with its small size and very short tube, might perhaps justify the making a new Genus of this plant; but its habit is entirely that of the other *Gymnandræ*, and till we are acquainted with the fruit, I prefer leaving it where its discoverer had placed it. The petioles, and even the leaves themselves, are partially clothed with deciduous hairs.

Tab. CLXXI.—Gymnandra rubra.—*Fig.* 1, Bractea; *fig.* 2, Corolla; *fig.* 3, Pistil:—*magnified.*

13.? ROMANZOFFIA. *Cham.*

Cal. 5-fidus, inferus persistens. *Cor.* hypocrateriformis, decidua. *Filamenta* imo tubo inserta. *Stigma* simplex. *Caps.* ovata, obtusa, bivalvis, bilocularis, dissepimento valvulis contrario, polysperma. *Cham.*

1. *R. Unalaschkensis* (Cham.); hirsuto-lanata, foliis longe petiolatis reniformi-cordatis profunde 5-rarius 7-lobis, floribus subcapitatis, pedicellis flore brevioribus post anthesin erectis, calycibus capsulam superantibus.—*Hor. Phys. Ber. p.* 71. *t.* 14. *De Cand. Prodr. v.* 1. *p.* 319. *Cham. et Schlecht. in Linnæa.* 2. *p.* 608.

Hab. Unalaschka and islands in Behring's Straits. *Chamisso. Langsdorff.*—I am not aware that any of our British Naturalists have gathered this species.

2. *R. Sitchensis* (Bong.); parce pilosa, foliis longe petiolatis reniformibus sub-9-lobatis, floribus laxe racemosis, pedicellis flore longioribus demum subpatentibus, calycibus capsulam duplo brevioribus.—*Bong. Veg. de Sitcha. p.* 40. *t.* 4.—*β. gracilis;* triplo minor.

Hab. Stitcha. *Bongard.* Fort Vancouver (*Mr Garry*) and Observatory Inlet. *Dr Scouler.*—*β.* Trinidad, N.W. America. *Mr Menzies.*—A larger and very different species from the preceding, having smaller flowers, very slender pedicels much elongated in fruit, and a calyx only half the length of the capsule. Mr Menzies was certainly the first to discover and distinguish this curious genus, and his original specimens and very accurate description are in my possession. I am aware that Mr Bentham does not consider this genus to belong to *Scrophularineæ*, and that Choisy is disposed to refer it to *Hydroleaceæ*, whilst *Mr Don* makes of it, and *Sibthorpia*, a separate Order, *Sibthorpiaceæ*: but in habit it so much resembles the *Veronicæ* group of the present Order, and the capsule and whole aspect have so striking an affinity with our *Wulfenia reniformis*, that I prefer for the present to place it here, notwithstanding the regular corolla and five stamens.

Trib. Gerardieæ. *Benth.*

14. GERARDIA. *L.*

1. *G. purpurea* (L.); foliis linearibus acutiusculis planis margine scabris, floribus breviter pedunculatis, calycibus subenerviis dentibus acutis tubo dimidio brevioribus, corollis glabris ample campanulatis, basi breviter tubulosis. *Benth. Syn. Gerard. in Hook. Comp. to B. Mag.* 1. *p.* 208.—*Ph. Am.* 2. *p.* 422.

Hab. Lake Huron, *Dr Todd,* to the Saskatchawan. *Drummond.*

2. *G. longifolia* (Nutt. *Tr. Am. Ph. Soc.* 5. 180.); foliis anguste linearibus margine scabris, floralibus flores superantibus, pedunculis calyce multo longioribus, calycibus subenerviis dentibus lanceolatis acutis tubo vix brevioribus, corollis glabris ample campanulatis basi breviter tubulosis. *Benth. l. c. p.* 208.—G. aspera. *Dougl. Ms.*

Hab. Pastures of the Red River, *East,* not on the "*West,*" side (*Benth.*) of the Rocky Mountains. *Douglas.*—Plant more scabrous than the preceding; leaves narrower, peduncles much longer, and flowers larger.

Trib. Rhinantheæ. *Benth.*

15. ORTHOCARPUS. *Nutt.*

Cal. tubulosus v. campanulatus, 4-fidus. *Cor.* bilabiata, clausa; *lab. sup.* minore compresso, marginibus inflexis; *inf.* concavo obsolete 3-dentato. *Antherarum loculi* tenues, mutici, inæquales. *Caps.* bilocularis, bivalvis, loculicide dehiscens. *Semina* marginata.

1. *O. bracteosus* (Benth.); caule duro pubescente, foliis lanceolatis apice lineari-trifidis, floribus spicatis, bracteis latis divaricato-trifidis rigidis, dentibus calycinis lanceolatis rigidis viridibus corollæ (purpurascentis) tubo brevioribus. *Benth. in Scroph. Ind. in not. p.* 13.

Hab. N.W. Coast. Columbia and Puget Sound, *Douglas;* Wallamet. *Tolmie.*—1-2 feet high. Corollas rather large, broad at the upper end, much exserted, pale-purple.

2. *O. strictus* (Benth.); caule duro hispido, foliis lanceolatis integris trifidisve, floribus distantibus longe spicatis, bracteis divaricato-trifidis laciniis longe lanceolatis corollas superantibus, dentibus calycinis lanceolatis brevissimis viridibus, corollis (luteis) glabris, tubo longe exserto. (Tab. CLXXII.) *Benth. l. c. p.* 13.

Hab. Plains of the Saskatchawan and mountain Prairies. *Drummond.* Red River; and N.W. America, at Puget's Sound, and Mount St Helen's. *Douglas.*—A foot to a foot and a half high, simple, or slightly branched, very leafy. Flowers yellow, resembling those of *Melampyrum pratense.*—May this not be the original *O. luteus* of Nuttall? from the Mandan country.

Tab. CLXXII.—*Fig.* 1, Flower; *fig.* 2, Fruit enclosed in the calyx; *fig.* 3, Fruit burst open; *fig.* 4, Seed:—*magnified.*

3. *O. hispidus* (Dougl.); subramosus, piloso-hispidus, foliis e basi lanceolata longe subtrifidis laciniis lineari-subulatis, floribus distantibus, bracteis viridibus corollas superantibus, calycis dentibus lineari-setaceis viridibus corollæ (flavescentis) tubo glabro brevioribus. *Benth. l. c. p.* 13.

Hab. Common on the low mostly grassy plains of the river Columbia. *Douglas.*

4. *O. tenuifolius* (Benth.); piloso-pubescens, foliis 3-5-fidis laciniis lineari-subulatis, floralibus latissimis incisis, floribus dense spicatis dentibus calycinis brevibus subulatis. *Benth. l. c. p.* 12.—Bartsia tenuifolia. *Ph. Am.* 2. *p.* 429.

Hab. N.W. Coast. *Mr Menzies.* Mounts Hood and St Helen's, and in the valleys of the Rocky Mountains. *Douglas.*

16. CASTILLEJA. *Mut.*

Cal. tubulosus compressus hinc fissus. *Cor.* tubulosa compressa bilabiata; *lab. sup.* lineari canaliculato; *inf.* brevissimo dentato. *Antherarum loculi* tenues mutici inæquales. *Caps.* ovata compressa. *Sem.* membrana reticulata laxa obtecta.

1. *C. coccinea* (Kunth); pilosa, foliis plerisque incisis calycibus utrinque fissis segmentis latis integris retusis corollam subæquantibus vel vix brevioribus. *Benth. ms.*—Euchroma coccinea. *Nutt.*—Bartsia cocc. *L.*—*Ph. Am.* 2. *p.* 429.—*β.* bracteis lutescentibus. *Ph. l. c.*

Hab. Throughout Canada to the Saskatchawan.

2. *C. hispida* (Benth. ms.); piloso-hispida, foliis plerisque incisis calycibus utrinque præsertim infra fissis segmentis apice bifidis laciniis oblongo-linearibus corolla parum brevioribus. *Benth.*—C. coccinea. *Dougl. ms. and Lindl. Bot. Reg. t.* 1136.

Hab. Common on dry soils of the N. W. Coast, especially about Fort Vancouver. *Douglas. Dr Scouler. Tolmie. Dr Gairdner.*—This western plant seems to me scarcely to differ from *C. coccinea*, except in being more villous, rather than hispid. Bracteas sometimes full yellow, as is the case with the preceding. Mr Bentham remarks (ms.): "Flowers of *C. pallida*; foliage of *C. coccinea.* Nearly allied to this is the *C. parviflora, Bong. Veg. de Sitch. p.* 40," but of which no specific character is given; there is however the observation, "valde affinis *C. coccineæ*, a qua autem tam habitu quam floribus duplo minoribus differt." The author has kindly sent me specimens, but the flowers do not appear to be fully developed.

3. *C. septentrionalis* (Lindl.); pilosa v. rarius glabrata, foliis plerisque incisis calycibus utrinque præsertim infra fissis segmentis apice bifidis laciniis ovatis corollam æquantibus. *Benth. Lindl. Bot. Reg. t.* 925.—Bartsia pallida. *Mich. Ph. et auct. Am. Sept.*

Hab. Rocky Mountains. *Drummond.* Arctic Sea-Coast. *Dr Richardson.* N. W. Coast. *Douglas* (last journey).—The species of this genus are liable to much variation, and their essential characters difficult to be determined; hence there is much confusion among authors. Chamisso and Schlechtendal consider the *C. septentrionalis* of Lindley, and the Europæan *pallida* (Lindley's *Sibirica*) to be identical. I will not attempt to decide the point from dried specimens, where the flowers cannot satisfactorily be examined, but content myself with Mr Bentham's definitions, made from our own specimens.

4. *C. pallida* (Kunth); glabra tomentosa vel apice pilosa, foliis caulinis plerisque integris, calycibus utrinque præsertim infra fissis segmentis apice bifidis, laciniis oblongis linearibus corollam æquantibus v. vix brevioribus. *Benth.*—*Hook. et Arn. in Bot. of Beech. p.* 128.—C. Sibirica. *Lindl. Bot. Reg. t.* 925 (*in descr.*)—Bartsia pallida. *L. et auct. Europ.*—Bartsia acuminata. *Ph. l. c.*

Hab. Pastures of the Rocky Mountains; and throughout Canada to Hudson's Bay and Fort Franklin on the Mackenzie River. *Drummond. Dr Richardson.* N.W. Coast, to Behring's Straits. *Chamisso. Men-*

zies. Tolmie. Labrador. (*Ph.*).—Extremely variable in size, in the width and incision of the leaves and bracteas, and in the colour of the latter: so that I fear the following is scarcely a distinct species. Probably Pursh's *Bartsia acuminata* is only a narrow-leaved state of the present.

5. *C. miniata* (Dougl. mst.); glabra v. apice pilosa, foliis caulinis integris calycibus utrinque præsertim infra fissis, segmentis apice bifidis laciniis lanceolatis oblongisve corollæ tubum vix æquantibus. *Benth.*

Hab. Blue Mountains, N.W. America. *Dougl. Tolmie.*—"The flower, though generally altogether shorter than in *C. pallida,* has yet usually the whole upper lip exserted from the calyx."

17. EUPHRASIA. *L.*

1. *E. officinalis. L.—E. Bot. t.* 1416. *Ph. Am.* 2. *p.* 430.—β. var. rotundifolia, laxiflora.—E. latifolia. *Ph. l. c.* (*non L.*)

Hab. Canada and Newfoundland, to lat. 64° N. (*Dr Richardson.*) β. Prairies of the Rocky Mountains. *Drummond.*

18. BARTSIA. *L.*

1. *B. alpina. L.—E. Bot. t.* 361. *Ph. Am.* 2. *p.* 430.

Hab. Labrador. *Kohlmeister. Dr Morison.*

19. RHINANTHUS. *L.*

1. *R. Crista Galli. L.—E. Bot. t.* 637. *Ph. Am.* 2. *p.* 429.

Hab. Newfoundland, and throughout Canada, to the shores of the Slave Lake, and to Fort Franklin. (*Dr Richardson.*) Prairies of the Rocky Mountains. *Drummond.* Fort Vancouver on the Columbia. *Dr Scouler.*

20. MELAMPYRUM. *L.*

1. *M. sylvaticum. L.—E. Bot. t.* 804.—M. Americanum. *Mich.*—M. lineare. *Lam.*—*Ph. Am.* 2. *p.* 430.

Hab. From Lake Huron, and throughout Canada, to the plains of the Saskatchawan. *Dr Richardson. Drummond.*—I quite agree with Mr Bentham, who considers this plant identical with our Europæan *M. sylvaticum;* varying, however, much in the breadth of the foliage, and in the entire or toothed bracteæ.

21. PEDICULARIS. *L.*

§ I. Personatæ. *Stev.—labio inferiore erecto.*

1. *P. capitata* (Adams in *Mem. Nat. Cur.* 5. *p.* 100); subpubescens, caule brevi subaphyllo, foliis pinnatis pinnis inciso-pinnatifidis, floribus paucis capitatis, corolla calyce quadruplo longiore corollæ clausæ labio inferiore duplo breviore, galea obtusa, stylo exserto. *Stev. Monogr. Pedicul. in Mem. Soc. Imp. Mosc. v.* 6. *p.* 19. *t.* 3. *f.* 2.—P. Nelsonii. *Br. in Rich. App. p.* 743. *Hook. in App. to Parry's Second Voy. p.* 402. *t.* 1.—P. verticillata. *Ph. Am.* 2. *p.* 426. (*non Willd.*)

Hab. Arctic Sea-shore and Islands. *Dr Richardson. Capt. Sir E. Parry.* Behring's Straits. *Langsdorff. Chamisso. Beechey.*

2. *P. lanceolata* (Mich.); caule erecto folioso, foliis oppositis lanceolatis duplicato-inciso-crenatis, floribus dense spicatis, corollæ clausæ (calyce triplo longioris) labiis subæqualibus, galea subrostrata. *Ph. Am.* 2. *p.* 425. *Stev. l. c. p.* 18. *t.* 4. *f.* 2.—P. Virginica. *Poir.*—P. pallida. *Nutt.*—β. corolla breviore.

Hab. Canada. *Mr Goldie.*—β. St Clair Bay, Upper Canada. *Mr Js. M'Nab.*—Upper Canada is probably the northern limit of this fine species.

§ II. Verticillatæ. *Stev.—foliis quaternis.*

3. *P. Chamissonis* (Stev.); glaberrima erecta simplex, foliis quaternis pinnatifidis inciso-serratis, floribus verticillatis in spicam interruptam, corollæ galea uncinata. *Stev. l. c. p.* 20.

Hab. Unalaschka. *Langsdorff and Chamisso.* (*Herb. nostr.*)

4. *P. verticillata* (Linn.); foliis quaternis pinnatifidis laciniis obtusis, floribus verticillato-spicatis, corollæ galea recta obtusa labium inferius subæquante, calyce quinquedentato. *Stev. l. c. p.* 24. *Cham. et Schlecht. in Linnæa*, 2. *p.* 582. *Hook. et Arn. Bot. Beech. p.* 128.

Hab. Kotzebue's Sound. *Beechey. Chamisso.* Sitcha. *Bongard.*

§ III. Faucidentes. *Stev.—Cor. lab. sup. utrinque infra med. dentato.*

5. *P. Wlassowiana* (Stev.); corollæ labio superiore antice rectilineo, denticulo infra medium. *Stev. l. c. p.* 27. *t.* 9. *f.* 1.—P. macrodontis. *Rich. App. p.* 24.—P. palustris. *Hook. et Arn. Bot. Beech. p.* 128.

Hab. Plains of the Saskatchawan; and York Factory, Hudson's Bay. *Dr Richardson. Drummond.* N.W. Coast. *Mr Menzies.* Kotzebue's Sound. *Beechey.*—"Readily distinguished from *P. palustris* by the smaller flowers, without any tooth at the apex, but only one on each side, near the base." (*Benth.*) Mr Bentham also remarks that probably Wahlenberg's Swedish, and Chamisso's N. American *P. palustris*, belong to this species, as is certainly the case with Dr Arnott's and my "*P. palustris*," from Kotzebue's Sound. On the other hand, Turcznaninow's Dahurian specimens, under the name of *P. Wlassowiana*, are a *var.* of *P. palustris.*

6. *P. palustris* (Linn.); corollæ labio superiore denticulo infra medium, galea dilatata gibba. *Stev. l. c. p.* 28. *E. Bot. t.* 399.—β. parviflora. *Benth. mst.*

Hab. Newfoundland. *Dr Morison.*—β. Carlton House Fort. *Dr Richardson.*

§ IV. Rostratæ. *Stev.—Cor. lab. sup. basi edentulo, rostrato.*

7. *P. surrecta* (Benth. mst.); erecta glabra, foliis pinnatisectis segmentis lanceolato-linearibus subcartilagineo-serratis, spicis elongatis multifloris, calycibus tubulosis 5-dentatis, dente supremo minore lateralibus altius crenatis corollæ galea fornicata calycem subduplo superante in rostrum subulatum surrectum calycem plus triplo superantem desinente. *Benth.*

Hab. N. West Interior. *Douglas* (last journey).—"Corollæ duplo majores quam in sequente."

8. *P. Groenlandica* (Retz, *Obs.* 4. *t.* 1); erecta glabra, foliis pinnatisectis segmentis lanceolato-linearibus subcartilagineo-serratis, spicis elongatis multifloris, calycibus tubulosis 5-dentatis dente supremo minore lateralibus altius connatis, corollæ galea fornicata calycem vix superante in rostrum subulatum surrectum calycem duplo superantem desinente. ***Benth.—Stev. l. c. p. 32. Ph. Am. 2. p. 426.***

Hab. Plains of the Columbia and N.W. Coast. *Lewis. Douglas.* Labrador. *Dr Morison.* Alpine marshes of the Rocky Mountains, and York Factory, Hudson's Bay. *Drummond.*

9. *P. contorta* (Benth. mst.); erecta glabra, foliis pinnatisectis segmentis linearibus inciso-serratis, spicis laxiusculis, calycibus campanulatis lacinia suprema parva lateralibus utrinque basi latis connatis apice linearibus integris, corollæ tubo calycem æquante, galeæ arcuatæ rostro lineari in labium inferius latissimum decurvo, apice vix surrecto. *Benth.*

Hab. Mt. Rainier, N. of the Columbia River. *Tolmie.*—A very fine species; the neck of the root very thick and woody, and bearing copious stems and leaves, the former 10 inches to a foot high.

10. *P. racemosa* (Dougl. mst.); adscendens glabra, foliis petiolatis lanceolatis duplicato-serratis, racemis elongatis laxis, calycibus hinc fissis brevissime bifidis membranaceis obtusis, galeæ arcuatæ rostro subulato deflexo suberecto, labio latissimo. *Benth.*

Hab. Abundant on the summit of the high mountains of the Grand Rapids of the Columbia; *Douglas:* gathered also in his last journey. Mt. Rainier; north of the Columbia. *Tolmie.*—A most distinct and remarkable plant, frequently with lax *axillary* leafy racemes. Allied to *P. teucriifolia, carnosa,* and *resupinata.* (*Benth.*)

11. *P. ornithorhynchos* (Benth. mst.); foliis ad basin caulis approximatis pinnatisectis, segmentis profunde pinnatifidis laciniis inciso-dentatis, calycibus ovato-inflatis breviter quinquefidis, laciniis integris subdentatisque, corollæ tubo calycem vix superante, labio patente, galea falcato-rostrata rostro tenui recto. *Benth.*

Hab. Mt. Rainier, N.W. America. *Tolmie.* "A *P. rostrata* cui affinis est differt foliis magis dissectis, calycis forma et corollæ labio minore."—A humble growing plant, its scapes, or almost naked stems, scarcely more than 6 inches high, with copious foliage at the base, more than half the length of the scape.

12. *P. Lapponica* (Linn.); caule erecto simplici, foliis lanceolatis pinnatifidis laciniis lanceolatis incisis, calycibus ovatis brevissime dentatis subtus fissis, corollæ galea uncinata, spica capitata laxa.—*Stev. l. c. p.* 35. *Ph. Am.* 2. *p.* 309. *Rich. App. p.* 24.

Hab. Labrador. *Kohlmeister. Dr Morison.* Barren grounds between lat. 64° and the Arctic Sea. *Dr Richardson.*—Corolla primulaceo-flava; labio inferiore latiusculo reclinato trilobo, lobo intermedio minore recurvo, lobis omnibus eroso-dentatis; galea in rostro brevi deciso deorsum spectante attenuata. *Stigma* exsertum.

§ V. Bicuspidatæ. *Stev.—Cor. lab. sup. basi edentulo, galea brevi apice bidentata.*

13. *P. Canadensis. Linn.—Ph. Am.* 2. *p.* 425. *Stev. l. c. p.* 41.—β. spica elongata. P. gladiata. ***Mich. Ph. Nutt***

Hab. Canada, *Mrs Percival. Cleghorn. Goldie;* and from Lake Huron, *Dr Todd,* to the Grand Rapid of the Saskatchawan, near Lake Winipeg. *Douglas.*

14. *P. euphrasioides* (Steph.); caule ramoso, foliis pinnatifidis infimis bipinnatifidis laciniis oblongis dentatis, racemis terminalibus laxis, calyce obtuso subtus fisso supra brevissime tridentato, corollæ galea convexa bidentata.—*Gmel. Sib.* 3. *t.* 43. *Stev. l. c. p.* 42. *Ph. Am.* 2. *p.* 424.—P. Labradorica. *L.*—P. ramosa. *Wormskiold in Herb. nostr.*

Hab. Moist mossy places. North of the Saskatchawan to the Arctic Sea-shore. *Dr Richardson.* Woods of *Pinus Banksii* in the Rocky Mountains. *Drummond.* Labrador. *Kohlmeister. Dr Morison.* Kotzebue's Sound. *Beechey. Chamisso.*—Dr Richardson thus describes the flower from living specimens:—"*Cal.* pedunculatus glabriusculus bilabiatus, sinu superiori obtuso, sinu inferiori profundiori acuto labiis unidentatis. *Cor.* flava, tubo calyce fere duplo longiori; labio inferiori 3-lobo, lobis rotundatis integerrimis; galea rostrata decisa bidentata; pistillo exserto."

15. *P. nasuta* (Bieb.); foliis radicalibus longe petiolatis bipinnatifidis, laciniis angustis, scapo erecto subunifolio, spica capitata foliosa, calyce quinquefido pubescente, corollæ galea arcuata brevissime rostrata bidentata. *Stev. l. c. p.* 43. *t.* 15.

Hab. Sitcha. *Bongard,* who observes that his specimens are the same with the original ones in Bieberstein's Herbarium from Kamtschatka.

16. *P. Sudetica* (Willd.); foliis pinnatifidis laciniis lanceolatis serratis, spica densa, calyce quinquefido, corollæ galea obtuse bidentata. *Stev. l. c. p.* 44. *t.* 15. *f.* 2. *Rich. App. p.* 25. *cum descript.*

Hab. Bear Lake to the Arctic Sea-coast. *Dr Richardson.* Kotzebue's Sound. *Beechey. Chamisso.*—Of this plant Mr Bentham remarks, that the flowers are rather shorter, and the galea rather broader, especially near the base, than in the Sudetian plant.

§ VI. Edentulæ. *Stev.—Cor. lab. sup. omnino edentulo galea brevi.*

17. *P. Langsdorffii* (Fisch. mst.); foliis bipinnatifidis radicalibus copiosis caulinorum rachi dilatata, spica densa lanata, calyce quinquefido corolla quadruplo breviore, galea obtusa truncata (nonnunquam sub apice dentata). *Stev. l. c. p.* 49. *t.* 9. *f.* 2. (1823.) *Cham. in Linnæa,* 2. *p.* 584.—P. arctica. *Brown, in Parry's First Voy. App. p. CCLXX.*—P. purpurascens. *Spreng.*—P. hirsuta. *Rich. App. p.* 25. (*fide specim. in Herb. nostr.*)—*β. elatior;* foliis paucioribus, spica elongata laxiore, galea majore (an spec. distincta?).—*γ.* spica maxima elongata, foliis bipinnatifidis, segmentis angustis.—P. lanata. *Hook. et Arn. in Beech. Bot. p.* 128.—*an Cham.?*

Hab. Behring's Straits. *Menzies. Langsdorff. Chamisso.* (*Herb. nostr.*) Melville Island. *Sir E. Parry.* Summits of the Rocky Mountains, abundant. *Drummond.*—*β.* Bear Lake River to the Arctic Sea. *Dr Richardson.*—*γ.* Kotzebue's Sound. *Beechey.*—Chamisso in the *Linnæa* (*l. c.*) considers the more common woolly spiked state of the plant to be a distinct species (*P. lanata*): but it is that latter var. which Dr Fischer himself marked in my Herbarium as his *P. Langsdorffii;* and Steven's figure affords an accurate representation of the more usual form of the plant. My var. *β.* has a different appearance, and a longer, more incurved, and blunter upper lip; whilst my var. *γ.* has a short and narrow upper lip, and leaves which are finely cut in a pinnatifid manner.

18. *P. hirsuta* (Linn.); lanata, caule folioso, foliis pinnatifidis, rachi in petiolum foliaceum dilatata, spica foliosa, calyce quinquefido hirsuto, corollæ calyce duplo longioris galea

obtusissima. *Stev. l. c. p.* 51. *Rich. App. p.* 25. *Hook. in Parry's 2d. Voy. App. p.* 402. *Fl. Dan. t.* 1105 (*bona*).

Hab. Arctic Islands, frequent; from the Continent I have seen only one specimen, and that of gigantic growth (a foot tall), from Bear Lake, gathered by *Dr Richardson* in his second journey. The "*P. hirsuta*" of the former journey I refer to *P. Langsdorffii* (*arctica*, Br.). The present may be at once recognised by the remarkable dilatation of the petiole, of which the rachis is an equally broad continuation; and on this, at the margins, are set the little segments, or rather pinnules, like the teeth on the broad snout of a sword-fish, at regular distances. This character has not escaped the notice of Wahlenberg. The flowers are smaller, and much paler coloured than in the preceding.

19. *P. flammea* (Linn.); humilis, foliis præcipue radicalibus pinnatis pinnis ovatis retro-imbricatis dentatis, calyce 5-fido (glabro, *Stev.*), spica brevi, corollæ galea obtusissima rotunda, labii inferioris laciniis linearibus.—*α.* galea purpureo-fusca. *Fl. Lapp. t.* 4. *f.* 2. *Ph. Am.* 2. *p.* 426. *Stev. l. c. p.* 51.—*β.* corolla tota flava.

Hab. Labrador. *Kohlmeister* (*Ph.*). Arctic America. *Dr Richardson*. *α.* and *β.* Summits of the Rocky Mountains. *Drummond.*—In all our American specimens, and in many European ones, the calyx is decidedly, but not thickly, woolly.

20. *P. versicolor* (Wahl.); foliis pinnatis pinnis retro-imbricatis, calyce 5-fido pubescente, corollæ galea obtusa antice angulata. *Stev. l. c.*

Hab. Islands of N.W. America. (*Steven.*)—Except in the larger flowers and larger size, generally, of the plant, and the minute angle in front of the galea, this species comes very near *P. flammea*.

21. *P. bracteosa* (Benth. mst.); erecta elata, foliis pinnatisectis segmentis lanceolatis inferioribus distantibus pinnatifidis laciniis serratis, spica elongata densa, bracteis membranaceis ovatis acuminatis, calycibus quinquefidis pilosis, corollæ galea obtusa subincurva antice acuta vel vix obsolete dentata. *Benth.*—P. alata. *Ph.* 2. *p.* 425? (*non Willd.*)

Hab. Shady alpine woods of the Rocky Mountains. *Drummond.* N.W. Am. *Douglas* (last journey).—A very fine plant, 2 feet and more high; some of the leaves are 6 inches, and even longer, and some of the pinnæ four inches; spike long and dense.

Mr Pursh gives the *P. recutita* as a native of the N.W. Coast, on the authority of Mr Menzies, "and probably throughout Canada." But, doubtless, some very different species has been mistaken for it.*

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* Among the notes on the N. American species of *Pedicularis*, kindly communicated to me by Mr Bentham, and from which I have greatly profited, is the character of a very beautiful new species, found by Mr Douglas in North California, with the flowers much resembling those of *recutita* :—"

P. *(Edentula) densiflora* (Benth. mst.); erecta elata, foliis amplis profunde pinnatifidis pinnatisectisve segmentis ovali-oblongis pinnatifidis, laciniis oblongis inciso-dentatis, spica densa multiflora, calyce inæqualiter 5-dentato, corollæ galea recta obtusa antice hiante, labio minimo.

Hab. N. California. *Douglas.*

Ord. LXVIII. LABIATÆ. *Juss.*

Trib. Menthoideæ. *Benth.*

1. MENTHA. *L.*

1. *M. Canadensis. Benth.*—*α.* villosa. *Benth.* M. Canadensis. *L.*—*Ph. Am.* 2. *p.* 405. —*β. glabrior.* M. borealis. *Mich.*—*Ph. Am.* 2. *p.* 405.

Hab. From Canada to the Mackenzie River. (*Dr Richardson.*) Newfoundland. Abundant in N.W. America.

Obs. The above seems to be the only indigenous Mint: but *M. viridis, L.* (*M. tenuis, Mich. et Ph.*), *M. piperita, M. aquatica,* and *M. pulegium,* are occasionally found in cultivated grounds.

2. LYCOPUS. *L.*

1. *L. Virginicus* (Linn.); glabriusculus, caule basi stolonifero, foliis oblongo-ellipticis utrinque angustatis remote dentatis, calycibus 4-dentatis, dentibus ovatis obtusis, staminum sterilium rudimentis nullis. (*Benth.*) *Ph. Am.* 2. *p.* 16. *Richards. App. p.* 2.—*β.* pauciflorus. *Benth.*—L. uniflorus. *Mich.*—L. pumilus. *Vahl.*—*Ph.*

Hab. Plains of the Saskatchawan. *Drummond.*

2. *L. macrophyllus* (Benth.); caule erecto firmo obtuse tetragono, foliis petiolatis amplis ovatis longe acuminatis grosse sinuato-dentatis basi angustatis glabris, verticillastris multifloris, calycibus irregulariter 4-5-dentatis, dentibus ovatis obtusis, staminum rudimentis nullis (?) acheniis calycem æquantibus. *Benth. Lab. Gen. et Sp. p.* 185.—L. Virginicus.—*β.* quercifolius. *Ph. Am.* 1. *p.* 16?

Hab. Juan de Fuca, N.W. Coast. *Dr Scouler.*

3. *L. obtusifolius* (Mich. *ex Vahl Enum.* 1. 212?); caule erecto firmo subsimplici, foliis sessilibus oblongo-ellipticis profunde serratis basi rotundato-angustatis, verticillastris multifloris, calycibus irregulariter 5-dentatis, acheniis calyce vix brevioribus, staminum rudimentis subnullis. *Benth. l. c. p.* 186. *Ph. Am.* 1. *p.* 16.

Hab. Carlton House Fort on the Saskatchawan. *Drummond.* Red River. *Douglas.*

4. *L. sinuatus* (Ell.); caule erecto acute tetragono glabriusculo, foliis petiolatis oblongo-lanceolatis utrinque angustatis infimis pinnatifidis mediis sinuato-dentatis supremis linearibus subintegerrimis, verticillastris multifloris, calycibus 5-dentatis acutis, staminum sterilium rudimentis capitatis, acheniis tubo calycis brevioribus. *Benth. l. c. p.* 187.—L. Europæus. *Mich.* (*non L.*)—*Ph. Am.* 1. *p.* 16.—L. bracteatus and Americanus. *Muhl.*—*α. dissectus* (Benth.); foliis plerumque pinnatifidis. L. exaltatus. *Ell.* (*non L.*)—*β. vulgaris* (Benth.); foliis plerumque sinuatis. L. sinuatus. *Ell.*—L. vulgaris. *Nutt.*—*γ. angustifolius* (Benth.); foliis plerumque linearibus subintegerrimis. L. angustifolius. *Nutt.* —L. longiflorus and L. longifolius. *Rafin.*—L. Pennsylvanicus. *Muhl.*

Hab. Throughout Canada to the Saskatchawan. N. W. America, abundant.

3. SALVIA. *L.*

1. *S. obovata. Ell. Carol.* 1. *p.* 33. *Benth. l. c. p.* 307.—S. lyrata, β. obovata. *Ph. Am.* 1. *p.* 20. *Dill. Elth.* 219. *t.* 173. *f.* 216.

Hab. Canada. *Michaux* :—but I have never seen specimens from so far north.

4. AUDIBERTIA. *Benth.*

Cal. ovatus, bilabiatus, labio superiore concavo integro v. breviter tridentato, inferiore bifido, intus fauce nuda. *Corolla* tubo calycem æquante vel exserto, limbo bilabiato, labio superiore bifido lobis patentibus, medio latissimo emarginato. *Stam.* fertilia 2 (inferiora) adscendentia, sæpius exserta, superiorum rudimenta parva claviformia v. nulla. *Antheræ* dimidiatæ, connectivo lineari in filamentum articulato adscendente, apice antheram linearem unilocularem ferente postice non producto v. brevissime acuminato. *Stylus* breviter subulato-bifidus.

1. *A. incana* (Benth); suffruticosa, ramis divaricatis ramosis canescentibus, foliis obovato-oblongis obtusis integerrimis basi angustatis canescentibus, floralibus bracteisque lato-ovatis, racemo simplici, genitalibus exsertis. *Benth. in Bot. Reg. t.* 1469. *Lab. Gen. et Sp. p.* 314.—**Salvia carnosa.** *Dougl. mst.*

Hab. N.W. America; at Priest's Rapid on the Columbia and plains from Walla-wallah to Spokan Rivers. *Douglas.*—A very beautiful and very distinct genus, of which five other species were found by Mr Douglas in Northern California.

5. MONARDA. *L.*

1. *M. didyma* (Linn.); foliis petiolatis ovato-lanceolatis acuminatis basi rotundato-subcordatis utrinque hispidulis vel rarius glabratis, floralibus sessilibus bracteisque exterioribus oblongo-lanceolatis basi longe angustatis coloratis glabris fauce subnuda, corollis glaberrimis. *Benth. l. c. p.* 316. *Bot. Mag. t.* 546.—M. fistulosa, var. *Bot. Mag. t.* 145? —M. coccinea. *Mich.*—M. purpurea. *Lam.*—M. Klamiana. *Ph. Am.* 1. *p.* 17. *t.* 1. (*mala*).

Hab. Canada. *Mrs Sheppard.*

2. *M. fistulosa* (Linn.); foliis petiolatis ovato-lanceolatis basi rotundato-subcordatis utrinque glabris pubescentibus hispidisve, floralibus sessilibus bracteisque exterioribus subcoloratis, calycibus subincurvis vix coloratis, fauce intus hispida, corollis glabris villosisve. *Benth. l. c. p.* 316. *Ph. Am.* 1. *p.* 18. *Reich. Ic. Exot. t.* 172.—M. Clinopodia. *L.*—M. allophylla. *Mich.*—M. purpurea. *Ph. Am.* 2. *p.* 17. (*non Lam.*)—M. oblongata et rugosa. *Ait.*—M. glabra et longifolia. *Lam.*—M. altissima. *Willd.*—*Reich. Ic. Exot. t.* 27.—β. *mollis*, foliis molliter pubescentibus corollæ labio superiore densius barbato. *Benth. l. c. p.* 317.—M. mollis. *Linn. Am. Acad.* 3. *p.* 399. *Reich. Ic. Exot. t.* 171.—M. menthæfolia. *Grah. in Bot. Mag. t.* 2958.

Hab. Canada to the Saskatchawan, where var. β. is particularly abundant.

Trib. Satureineæ. *Benth.*

6. PYCNANTHEMUM. *Mich.*

1. *P. incanum. Mich. Am.* 2. *p.* 7. *Ph. Am.* 2. *p.* 409.—Clinopodium. *L.*

Hab. Canada. *Goldie.*

7. MONARDELLA. *Benth.*

Cal. ovato-tubulosus, sæpe elongatus, 10-13-nervius, 5-dentatus, dentibus brevibus subæqualibus rectis, fauce intus nuda. *Cor.* tubo calycem æquante vel breviter exserto, fauce intus glabra, limbo subbilabiato, labio superiore bifido, inferiore trifido, lobis omnibus oblongis linearibusve planis subæqualibus. *Stam.* 4, subæqualia, vel inferiora longiora, recta, divergentia, exserta. *Antheræ* biloculares, loculis parallelis, demum divergentibus vel divaricatis. *Stylus* apice brevissime bifidus, stigmatibus minutis. *Achenia* sicca.—Herbæ *perennes.* Verticillastri *magni, subglobosi, bracteis latis suffulti, solitarii, terminales. Benth.*

1. *M. odoratissima* (Benth.); caule procumbente, foliis subsessilibus oblongo-lanceolatis utrinque angustatis integerrimis canis, verticillastris dense globosis magnis solitariis, bracteis exterioribus lato-ovatis obtusissimis coloratis, calycibus tubulosis elongatis subæqualiter dentatis. ***Benth. l. c. p.* 332.**

Hab. Gravelly soils near the Narrows and Kettle Falls of the Columbia and Salmon Rivers; and on limestone rocks on the Blue Mts., N. W. America. *Douglas.*

8. COLLINSONIA. *L.*

1. *C. Canadensis. L.—Ph. Am.* 1. *p.* 20,—*and* 21 (C. ovalis).

Hab. Canada. *Ph.*

9. CUNILA. *L. Benth.*

1. *C. Mariana. L.—Ph. Am.* 2. *p.* 400.—Ziziphora. *R. and Sch.*

Hab. Canada. *Ph.*

Trib. Melissineæ. *Benth.*

10. HEDEOMA. *Pers.*

1. *H. pulegioides. Pers.*—Melissa. *L.*—Ziziphora. *R. and Sch.*

Hab. Canada. *Ph.*

11. MICROMERIA. *Benth.*

Cal. 13-rarius sub-15-striatus, 5-dentatus, subæqualis. *Cor.* tubus exannulatus, exsertus; limbus bilabiatus, labiis planiusculis. *Stam.* adscendentia, superioribus brevioribus antheriferis. *Benth.*

1. *M. glabella* (Benth.); glabra, caule herbaceo erecto pusillo, foliis sessilibus oblongo-

linearibus obtusis integerrimis, verticillastris subsexfloris, pedicellis elongatis nudis, calycibus subbilabiatis dentibus omnibus subulatis, fauce intus villosa. *Benth. l. c. p.* 370.—Cunila. *Mich.*—Ziziphora. *R. and Sch.*—Hedeoma glabra. *Nutt.*

Hab. Canada. *Goldie.* Lake Huron. *Dr Todd.*

2. *M. Douglasii* (Benth.); caule herbaceo prostrato, foliis petiolatis ovato-rotundatis obtusis crenatis basi rotundato-truncatis utrinque glabris, pedunculis elongatis basi v. medio bracteatis, calycis dentibus subulatis, fauce intus nuda. *Benth. l. c. et in Linnæa,* 6. *p.* 80.—M. Chamissonis. *Benth. in Linnæa,* 6. *p.* 80.

Hab. N. W. America, in shady Pine-woods, especially about the Columbia. *Menzies. Douglas. Dr Scouler. Tolmie.*

12. MELISSA. *L. et Benth.*

1. *M. Clinopodium. Benth.*—Clinopodium vulgare. *L.—E. Bot. t.* 1401. *Ph. Am.* 2. *p.* 410.

Hab. Canada, in various places. Norway House Fort. *Dr Richardson.* (Introduced.)

Trib. Scutellarineæ. *Benth.*

13. PRUNELLA. *Benth.*

1. *P. vulgaris. L.—E. Bot. t.* 961. *Ph. Am.* 2. *p.* 411.—*β. major,* foliis angustioribus. P. Pennsylvanica.

Hab. Canada. Newfoundland.—*β.* Saskatchawan, and Portage River near the source of the Columbia. *Drummond.* Abundant on the N. W. Coast, often a foot high, and with the flowers of a very large size. *Douglas. Scouler. Tolmie.*—An extremely variable plant, in size and hairiness and in the breadth of its leaves.

14. SCUTELLARIA. *L.*

1. *S. canescens* (Nutt.); caule elato ramoso pubescente, foliis petiolatis ovatis v. ovato-lanceolatis acutis crenatis basi angustatis rotundatis v. infimis cordatis utrinque pubescentibus subtus incanis, floralibus oblongis calyces superantibus, racemis laxis paniculatis canescentibus, floribus oppositis secundis, calycibus cano-tomentosis, corollis extus pubescentibus. *Benth. Lab. p.* 422.—S. serrata and S. incana. *Spr.*

Hab. Canada. *Goldie.*

2. *S. angustifolia* (Ph.); glabriuscula, caule erecto simpliciusculo, foliis infimis petiolatis ovatis dentatis superioribus subsessilibus oblongo-linearibus integerrimis omnibus basi rotundato-cuneatis, floralibus conformibus supremis sterilibus, floribus axillaribus oppositis secundis, calycibus pedicello brevioribus. *Benth. l. c. p.* 436.

Hab. N. W. America. Kooskoosky. *Lewis.* Columbia River, near the sources. *Douglas.* Wallamet. *Tolmie.*

3. *S. galericulata. L.—E. Bot. t.* 523. *Ph. Am.* 1. *p.* 412.

Hab. Newfoundland. *Miss Brenton.* Throughout Canada. Saskatchawan, abundant (*Drummond*), and as far north as Fort Franklin on the Mackenzie River. *Dr Richardson.* N.W. Coast. *Douglas.*

4. *S. parvula. Mich.—Ph. Am.* 2. *p.* 411. *Hook. Ex. Fl. t.* 106.—S. ambigua. *Nutt.*

Hab. Canada. *Michaux. Mrs Sheppard.* Saskatchawan. *Dr Richardson.*

5. *S. antirrhinoides* (Benth.); caule diffuso ramoso glabro, foliis breviter petiolatis ovatis obtusis integerrimis basi angustatis crassiusculis glabris vel tenuissime pubescentibus, floralibus conformibus supremis sterilibus, floribus axillaribus oppositis secundis, calycibus pedicello brevioribus. *Benth. l. c. p.* 440.

Hab. N.W. America. About Fort Vancouver. *Douglas. Dr Scouler.* Wallamet. *Tolmie.*

6. *M. lateriflora. L.—Ph. Am.* 2. *p.* 412.

Hab. Throughout Canada to the Saskatchawan; and N.W. Am. *Douglas. Dr Scouler. Dr Gairdner.*

Trib. Nepeteæ. *Benth.*

15. LOPHANTHUS. *Benth.*

Cal. tubulosus, 15-nervius, subincurvus, ore obliquo 5-dentato, dentibus superioribus sublongioribus. *Cor.* tubo calycem æquante, intus nudo, limbo bilabiato, labio superiore suberecto emarginato-bifido, inferiore subpatente trifido, lobo medio lato-crenato. *Stam.* 4 didynama, inferioribus brevioribus, distantia v. divaricata. *Antheræ* biloculares. *Achænia* lævia, nuda. *Benth.*

1. *L. urticæfolius* (Benth.); glaber, foliis cordato-ovatis crenatis utrinque viridibus, spicis densis oblongis, laciniis calycinis lineari-subulatis, genitalibus longe exsertis. *Benth. l. c. p.* 462.—Hyssopus urticæfolius. *Dougl. mst.*

Hab. Lewis and Clarke's River, N.W. America. *Douglas.*

2. *L. anisatus* (Benth. *in Bot. Reg. t.* 1582); glaber, foliis ovatis v. ovato-lanceolatis acutis crenatis supra viridibus subtus albis, spicis cylindricis basi interruptis, laciniis calycinis lanceolatis acutis, genitalibus exsertis. *Benth. Lab. p.* 463, *and in Bot. Reg. t.* 1282. —Hyssopus. *Nutt.* H. discolor. *Desf.*—H. Fœniculum. *Spr.*—Stachys Fœniculum. *Ph. Am.* 2. *p.* 407.

Hab. Plains of Saskatchawan, abundant, to Fort Franklin on the Mackenzie River. *Dr Richardson. Drummond.* Assinaboine River. *Douglas.*

16. NEPETA. *L.*

1. *N. Cataria. L.—Ph. Am.* 2. *p.* 406.

Hab. Canada. Norway House on the Saskatchawan. *Dr Richardson.* (Not indigenous?)

17. DRACOCEPHALUM. *L.*

1. *D. parviflorum* (Nutt.); caule erecto ramoso pubescente, foliis petiolatis lanceolatis inciso-crenatis serratisve utrinque viridibus subtus pubescentibus, verticillastris capitato-spicatis, bracteis ovato-cuneatis aristato-dentatis, calycis dente supremo lato-ovato, corollis calycem vix excedentibus. *Benth. l. c. p.* 496.

Hab. Saskatchawan River to Fort Franklin. *Dr Richardson. Drummond. Douglas.*

Trib. Stachydeæ. *Benth.*

18. PHYSOSTEGIA. *Benth.*

Cal. obscure venosus post anthesin inflatus. *Cor.* longe exserta, fauce amplissima. *Benth.*

1. *P. Virginiana.* Benth.—Dracocephalum. *L.—Bot. Mag. t.* 467. *Ph. Am.* 2. *p.* 411.—D. speciosum. *Sw. Br. Fl. Gard.* 1. *t.* 93.—D. denticulatum. *Ait.—Ph.—Bot. Mag. t.* 214.—D. obovatum. *Ell.*—D. lancifolium. *Moench.*—D. variegatum. *Vent. Cels. t.* 44. *Ph.*—D. intermedium. *Nutt.*—β. floribus dense imbricatis. Physost. imbricata. *Hook. Bot. Mag. t.* 3386.

Hab. Canada.—β. Plains of Saskatchawan. *Dr Richardson. Drummond.* Banks of the Columbia. *Douglas. Tolmie.*—A very variable plant.

19. LAMIUM. *L.*

1. *L. amplexicaule. L.—E. Bot. t.* 77. *Ph. Am.* 2. *p.* 406.

Hab. Canada (naturalized). *Mrs Percival.*

20. LEONURUS. *L.*

1. *L. Cardiaca. L.—E. Bot. t.* 286. *Ph. Am.* 2. *p.* 408.

Hab. Lake Huron. *Dr Todd.* Norway House Fort. *Drummond.* (Not indigenous.)

21. GALEOPSIS. *L.*

1. *G. Tetrahit. L.—E. Bot. t.* 207. *Ph. Am.* 2. *p.* 407.

Hab. Canada; Newfoundland (introduced).

22. STACHYS. *L.*

1. *S. ciliata* (Dougl.); herbacea erecta subglabra, caulis angulis obverse ciliatis, foliis petiolatis ovatis breviter acuminatis crenatis basi cordatis glabris v. supra pilis raris hispidulis, verticillastris 6-floris supremis subapproximatis, bracteis subnullis, corollis glabriusculis calyce triplo quadruplove longioribus, tubo longe exserto. *Benth. l. c. p.* 538.

Hab. Columbia; and banks of other streams in N. W. Am. *Douglas. Dr Scouler. Tolmie. Gairdner.*

2. *S. palustris. L.—E. Bot. t.* 1675.—β. *ambigua,* foliis latioribus magis petiolatis.—S. ambigua. *E. Bot. t.* 2089.

Hab. Throughout Canada to Fort Franklin on the Mackenzie River. *Dr Richardson. Drummond.* Columbia and Walla-wallah Rivers, N. W. America. *Douglas. Tolmie.* Newfoundland. *Miss Brenton.*—β. Canada. *Mrs Sheppard.* Norway House Fort. *Drummond.*

3. *S. aspera. Mich. Am.* 2. *p.* 5. *Ph. Am.* 2. *p.* 407. *Benth. l. c. p.* 543.—S. hispida. *Mich. Am.* 2. *p.* 5. *Ph. Am.* 2. *p.* 407.

Hab. Canada. *Mrs Sheppard.* Norway House Fort. *Drummond. Dr Richardson.* Newfoundland. *Mr Cormack.* Wallamet, N.W. America. *Tolmie.*—I fear that, except by the coarser and more reflexed hairs at the angles of the stem, this is hardly to be distinguished from *S. palustris*, which is assuredly a very variable species, both in the form of the leaves and in the pubescence. The specimens from Wallamet are all over very hairy.

23. MARRUBIUM. *L.*

1. *M. vulgare. L.—E. Bot. t.* 410. *Ph. Am.* 2. *p.* 408.

Hab. Lake Huron. *Dr Todd.*

Trib. Ajugoideæ. *Benth.*

24. TEUCRIUM. *L.*

1. *T. Canadense. L.—Ph. Am.* 2. *p.* 403.

Hab. Canada; near Quebec. *Mrs Sheppard.*

25. TRICHOSTEMMA. *L.*

1. *T. dichotomum. L.—Ph. Am.* 2. *p.* 414.

Hab. Canada. *Ph.*

2. *T. oblongum* (Benth.); pubescens v. villosum, foliis oblongis basi angustatis, cymis axillaribus, calycibus subæqualiter 5-fidis, corollæ tubo incluso. *Benth. l. c. p.* 657.

Hab. Low grassy pastures near Fort Vancouver. *Douglas.*

3. *T. lanceolatum* (Benth.); villosum, foliis lanceolatis, cymis axillaribus, calycibus inæqualiter 5-fidis, corollæ tubo exserto. *Benth. l. c. p.* 658.

Hab. N.W. America. Dry sandy soils on the Multnomak and Columbia. *Douglas.*

Ord. LXIX. VERBENACEÆ. *Juss.*

1. VERBENA. *L.*

1. *V. bracteosa. Mich.—Ph. Am.* 2. *p.* 416. *Hook. Bot. Mag. t.* 2910.

Hab. Menzies Island; and banks of the Columbia. N. W. America. *Douglas.* Walla-wallah River. *Tolmie.*

2. *V. paniculata* (Lam.); caule scabro, foliis petiolatis ovato-lanceolatis acutis inæqualiter serratis subtus venoso-reticulatis, spicis filiformibus corymboso-paniculatis, floribus imbricatis. *Lindl. Bot. Reg. t.* 1102. *Ph. Am.* 2. *p.* 416.

Hab. Low alluvial soils, N.W. Coast, abundant. *Douglas.* Fort Vancouver; and Walla-wallah River. *Tolmie.* Canada to the Saskatchawan. *Dr Richardson. Drummond.*—Scarcely, I fear, different from the following.

3. *V. hastata. L.—Ph. Am.* 2. *p.* 416.

Hab. Canada to the Saskatchawan. *Dr Richardson. Drummond.*

4. *V. urticæfolia. L.—Ph. Am.* 2. *p.* 416.

Hab. Canada to the Saskatchawan.—The broader leaves, and longer slender spikes, with lax flowers, distinguish this from the two preceding.

2. PHRYMA. *L.*

1. *P. leptostachya. L.—Ph. Am.* 2. *p.* 415.

Hab. Canada. *Pursh. Mrs Sheppard. Mrs Percival.*

Ord. LXX. LENTIBULARIÆ. *Richard.*

1. UTRICULARIA. *L.*

1. *U. vulgaris. L.—E. Bot. t.* 253. *Ph. Am.* 1. *p.* 15.

Hab. Pools, Canada. *Goldie.* Lakes near the Rocky Mountains. *Drummond.* Salmon River and higher parts of the Columbia. *Douglas.*

2. *U. intermedia. Heyne.—E. Bot. t.* 3489. *Rich. App. p.* 2.

Hab. Lake Huron (*Dr Todd*) to Bear Lake, *Dr Richardson;* and near the Rocky Mountains. *Mr. Drummond.* I possess the same plant gathered at Tewksbury, Massachusetts, by Mr Greene, marked "*U. Millefolium,* Nutt. mst."

3. *U. setacea* (Mich.); minuta aphylla, caule tenui-setaceo distanter 2-3-floro, floribus longiuscule pedicellatis, calcare longiusculo. *Mich. Am.* 1. *p.* 12.—M. subulata. *Ph. Am.* 1. *p.* 15.

Hab. Canada. *Ph.*—Barren specimens, apparently of this species, were gathered by *Mr Drummond* near the Saskatchawan.

4. *U. cornuta. Mich. Am.* 1. *p.* 12. *Ph. Am.* 1. *p.* 16.

Hab. Canada. *Michaux. Nuttall. Mrs Percival. Dr Todd.* Newfoundland. *Miss Brenton.*

2. PINGUICULA. *L.*

1. *P. vulgaris. L.—E. Bot. t.* 70. *Richards. App. p.* 2.

Hab. Woody and barren territories to Mackenzie's River. *Dr Richardson.* Rocky Mountains. *Drummond.* Labrador. *Dr Morison.* Newfoundland. *Miss Brenton.*

2. *P. grandiflora. Sm. E. Bot. t.* 2184.

Hab. Swamps, near Miet's Rock in the Rocky Mountains, rare. *Drummond.* Bogs, Millbank Sound, N. W. America. *Tolmie.*

Ord. LXXI. PRIMULACEÆ. *Juss.*

1. DODECATHEON. *L.*

1. *D. integrifolium* (Mich.); foliis integerrimis, umbellis plurifloris, pedunculis divaricatis, filamentis in tubum elongatum connatis.—α. *vulgare;* foliis oblongo-lanceolatis in

petiolum sensim attenuatis, tubo stamineo flavo. *Hook. Bot. Mag. t.* 3622. *Ph. Am.* 1. *p.* 136. *Rich. App. p.* 6.—*β. minus;* foliis ovato-spathulatis petiolatis, tubo stamineo flavo. —*γ. latifolium;* foliis latissime ovatis petiolatis, tubo stamineo purpureo-nigro.

Hab. *α.* Woody country of the Hudson's Bay territories to Carlton House Fort, and in Prairies of the Rocky Mountains. *Dr Richardson. Drummond.* Common along the beach at Stikine Sound and Clarence's Straits, N. W. America. *Tolmie.*—*β.* and *δ.* Dry banks about Fort Vancouver on the Columbia. *Dr Scouler. Dr Gairdner. Tolmie.* Sitcha (*Bongard*) and N. W. American Islands. *Pallas.*

2. *D. frigidum* (Cham. et Schlecht.); foliis oblongo-ovatis integerrimis subrepandis, umbellis paucifloris, pedunculis umbellatis divaricatis, bracteis lanceolatis, filamentis in tubo brevissimo connatis. *Linnæa,* 1. *p.* 217. *Hook. et Arn. in Bot. of Beech. Voy. p.* 129.

Hab. Kotzebue's Sound. *Beechey.* Arctic sea-shore. *Sir John Franklin* and *Captain Back.* West side of the Rocky Mountains. *Douglas.*

3. *D. dentatum;* foliis lato-ovatis grosse dentatis longissime petiolatis, umbellis paucifloris, pedunculis umbellatis suberectis, antheris sessilibus vel annulo brevissimo solummodo unitis.

Hab. N. W. interior (last journey). *Douglas.*—This appears a very distinct species, and to have white flowers.

2. ANDROSACE. *L.*

1. *A. septentrionalis. L.—Bot. Mag. t.* 2021. *Cham. et Schlecht. in Linnæa,* 1. *p.* 217. *Hook. et Arn. Bot. of Beech. Voy. p.* 129.—A. occidentalis? *Nutt. Gen. Am.* 1. *p.* 118.—A. elongata. *Rich. App. p.* 5. (*non L. and Jacq.*)

Hab. From Fort William on the Saskatchawan to the heights of the Rocky Mountains, and to lat. 68° on the Mackenzie River. *Dr Richardson. Drummond.* Bay of Escholtz in Behring's Straits. *Chamisso. Beechey.*—An exceedingly variable plant, from 1 to 9 inches high. Leaves toothed, pinnatifid or entire. Peduncles with a single flower, or an umbel either few- or many-flowered; the pedicels short or elongated. In Dr Richardson's *A. elongata,* the calycine teeth are much smaller than in the Linnæan *elongata* (though certainly a little larger than is usual in *septentrionalis*); the involucre is much smaller and the peduncles more upright.

2. *A. Chamæjasme. Wulff.—Cham. et Schlecht. in Linnæa,* 1. *p.* 318. *Hook. et Arn. Bot. of Beech. Voy. p.* 129. *Rich. App. p.* 5.

Hab. Islands of Behring's Straits. *Menzies. Chamisso.* Cape Newenham (*Nelson in Herb. nostr.*) and Kotzebue's Sound. *Beechey.* Heights of the Rocky Mountains. *Drummond;* and from Fort Norman to the Arctic coast. *Dr Richardson.*

3. DOUGLASIA. *Lindl.*

Cal. obconicus, angulatus, 5-dentatus. *Cor.* infundibularis, tubo ventricoso, limbo plano 5-partito, fauce callo lineari sub utroque sinu. *Ovarium* uniloculare, placenta centrali libera pedicellata fungilliformi, margine 5-dentato; *ovula* 5, dentibus placentæ opposita. *Capsula* vestita, unilocularis, 5-valvis. *Semina* 2, concava, scrobiculata.—Cæspites *suffruticulosi* (*Americæ borealis*), *foliis linearibus indivisis, floribus umbellatis solitariisque. Lindl.*

1. *D. nivalis* (Lindl. in *Brande's Journ. Jan.* 1828, p. 383.); foliis pube brevissima stellata incana. *Lindl. Bot. Reg. t.* 1886. *Hook. Ic. Plant. t.* 180.

Hab. Near the sources of the Columbia, at an elevation of 12,000 feet above the level of the sea. *Douglas.* 1827.—Specimens were also gathered by Mr Douglas in his last journey, in another part of the interior; but the locality is not mentioned.

2. *D. arctica;* glabra, foliis pilis brevibus simplicibus ciliatis.

Hab. Arctic Sea-shore, between the Mackenzie and Coppermine Rivers. *Dr Richardson.*—This is probably very rare, as only one specimen exists in the collection. It is quite distinct from the preceding, though agreeing exactly in habit, in the form of the leaves and flowers, and in the repeatedly dichotomous and densely tufted stems: thus confirming the interesting Genus, which, whether we consider its beauty or its localities, has so appropriately been dedicated to the talented and unfortunate Douglas.

4. PRIMULA. *L.*

1. *P. nivalis* (Pall. *It. t.* 9. *f.* 2.); foliis spathulato-lanceolatis planis dentatis glabris nudis, umbella multiflora erecta, involucri foliolis basi coadunatis.—*Lehm. Prim. p.* 67. *Cham. et Schlecht. in Linnæa,* 1. *p.* 215.

Hab. Behring's Straits. Cape Newenham (*Nelson*); and Mount Edgecomb. *Menzies* (*in Herb. nostr.*). Unalaschka. *Chamisso.*

2. *P. farinosa* (L.); foliis cuneato-lanceolatis crenato-dentatis subtus dense farinosis, umbella multiflora, pedicellis patentibus, calyce oblongo-ovato, corollæ laciniis obcordatis attenuatis subdistantibus tubo subdimidio brevioribus.—*E. Bot. t.* 6. *Rich. App. p.* 5.

Hab. Canada (*Goldie*) to the Rocky Mountains (*Drummond*); and to lat. 66° on the Mackenzie River. *Dr Richardson.*

3. *P. Scotica* (Hook.); foliis obovato-lanceolatis denticulatis subtus dense farinosis, umbella subcapitata pluriflora, calyce ventricoso, corollæ laciniis late obcordatis approximatis tubo subdimidio brevioribus. *Hook. Fl. Lond. N. S. t.* 33. *Brit. Fl. ed.* 4. *p.* 94.

Hab. Labrador. *Miss Brenton.*—This lady has kindly communicated to me specimens of the *Primula,* now under consideration, from Labrador, precisely agreeing with our *P. Scotica,* which had hitherto only been found in the extreme northern parts of Scotland, and on the Alps of Koordistan (*Fischer in Herb. nostr.*). The whole plant is as mealy as *P. farinosa:* flowers deep purple-blue, in almost capitate umbels, with broader and more approximate segments to the corolla and more distinct glands at the mouth of the tube.

4. *P. Hornemanniana* (Lehm. *Prim. p.* 55. *t.* 4.); foliis obovato-spathulatis dentatis nudis vel cum scapo calycibusque ventricosis parce farinosis, umbella pauci-1-6-flora, corollæ laciniis obovato-cuneatis tubo subdimidio brevioribus.—*Rich. App. ed.* 1. *n.* 58.—P. stricta. *Horn. Fl. Dan. t.* 1385.—P. Mistassinica. *Mich. Am.* 1. *p.* 124. *Ph. Am.* 1. *p.* 137. *Lehm. Prim. p.* 63. *t.* 7. *Hook. Bot. Mag. t.* 2073. *Cham. et Schlecht. in Linnæa,* 1. *p.* 213.—P. pusilla. *Hook. in Ed. Phil. Journ.* 6. *p.* 322. *t.* 11. *f.* 2. *Ex. Fl.* 1. *t.* 68. *Bot. Mag. t.* 3020. *Rich. App. ed.* 2. *p.* 5.—P. farinosa, β. stricta. *Wahl. Lapp. p.* 60.—P. farinosa. *Sm. in Linn. Fl. Lapp. n.* 79.—β. omnino efarinosa, calycibus nigricantibus.

Hab. α. Canada (*Dr Todd, Goldie, Mrs Sheppard, Mr M'Nab*) to Great Bear Lake (*Dr Richardson*);

and from Labrador (*Dr Morison*) in the East, to the Rocky Mountains (*Drummond, Douglas*); and the North-West Coast to Fort Vancouver (*Mr Garry*).—β. Unalaschka. *Chamisso.* Arctic Sea-coast. *Dr Richardson. Sir John Franklin. Captain Back.*—A plant with so very extensive a range, may be expected to vary somewhat, as is really the case, in the outline of its leaves, the length of the pedicels, and the relative length and breadth of the laciniæ of the corolla and tube. Its more usual form is so exactly that of the European *P. Hornemanniana* (*P. stricta*, Horn.), that I can have no hesitation in considering it the same, and in adopting that name as the most appropriate. The arctic state of the plant, as found by Chamisso and Dr Richardson, in two very different localities, exhibits not the smallest traces of mealiness, and the calyces are almost black: the leaves too, in the specimens of Dr Richardson, are most frequently quite entire; those from Chamisso generally toothed.

5. *P. saxifragifolia* (Lehm.); foliis obovato-cuneatis petiolatis serrato-lobatis, umbella 2-3-flora, calycibus profunde 5-partitis tubo triplo brevioribus, limbi laciniis semibifidis. *Lehm. Prim. p.* 89. *t.* 9. *Hook. et Arn. in Bot. of Beech. Voy. p.* 128.

Hab. Unalaschka. *Menzies (in Herb. nostr.). Chamisso.* Cape Newenham. *Nelson (in Herb. nostr.).* Kotzebue's Sound. *Beechey.*—A very distinct and well-marked species.

6. *P. Sibirica* (Jacq.); foliis ovatis subovatisve tenui-petiolatis integerrimis v. obsolete dentatis, umbella pauciflora laxa, involucri 2-3-phylli foliolis auriculatis vaginantibus. *Gmel. Sib.* 4. *p.* 46. *f.* 1. *Lehm. Prim. p.* 60. *t.* 5.—P. Norvegica. *Retz.—Lehm.*—P. integrifolia. *Oed. Fl. Dan. t.* 188. (*non L.*)—P. Finmarchica. *Willd.—Wahl.*—P. Egaliccensis. *Horn. Fl. Dan. t.* 1511. *Lehm. Prim. p.* 64. *t.* 7.

Hab. Barren country between lat. 60° and 69°, in clayey soil, by river-banks and in marshy grounds. *Dr Richardson.*—This very distinct and well-marked species does not appear to have been found in the second expedition. I have carefully compared Dr Richardson's specimen with authentic ones of the European *P. Norvegica*, the Asiatic *P. Sibirica*, and the *P. Egaliccensis* from Hornemann himself, and there can be no question about the propriety of referring them all to one and the same species. *P. rotundifolia*, Pall. It., and *P. intermedia*, Ledeb. in Mém. de l'Acad. des Sc. de Petersb., may also be cited as synonyms.

5. TRIENTALIS. *L.*

1. *T. Americana* (Ph.); foliis terminalibus (reliquis abortivis squamæformibus) lanceolatis serrulatis petalisque acuminatis. *Ph. Am.* 1. *p.* 254. *Rich. App. p.* 12.—T. Europæa. *Mich.*;—var. Americana. *Torr.*

Hab. Canada to the Saskatchawan, frequent. Labrador and Newfoundland. *Miss Brenton.*

2. *T. latifolia*; foliis terminalibus (reliquis abortivis squamæformibus) ovatis integerrimis petalisque vix acuminatis.

Hab. N. W. America. About Fort Vancouver. Walla-wallah River. *Tolmie.*—I can neither refer this Western plant to our European *Trientalis*, nor to the one of Eastern America. The leaves are almost exactly ovate, slightly acuminated or rather acute, and in some of the specimens two inches broad.

3. *T. arctica* (Fisch. mst. *in Herb. nostr.*); caule folioso, foliis obovato-cuneatis integerrimis petalisque obtusissimis.—T. Europæa. *Cham. et Schlecht. in Linnæa*, 1. *p.* 224. *Hook. et Arn. in Bot. of Beech. Voy. p.* 116. (*excl. syn. E. Bot.*)

Hab. Western shore and islands, from Sandy Bay, in Clarence Straits (*Tolmie*), to Unalaschka. *Langs-*

dorff. Chamisso (in Herb. nostr.).—The same plant is found at Kamtschatka by Pallas, Langsdorff, and Beechey.—The long leafy stem, and obovate very obtuse foliage, give a remarkable appearance to the plant; and I cannot but think that this very northern *Trientalis* is, like the preceding, a really distinct species. It has quite the habit of a *Samolus*. In all, the number of the parts of the flower varies from 6, which is most usual, to 7. In this and the preceding, the margins of the leaves are quite entire, in the *T. Americana* and *Europæa* slightly (but when seen under a microscope distinctly) serrulated.

6. LYSIMACHIA. *L.*

1. *L. stricta. Ait.*—L. racemosa. *Mich. Ph.*—L. bulbifera. *Curt. Mag. t.* 104.

Hab. Canada, to the Saskatchawan. *Dr Richardson.* New Brunswick. *Mr Kendal.*

2. *L. revoluta* (Nutt. *Gen. Am.* 1. *p.* 122); caule tetragono ramoso, foliis oppositis sessilibus rigidis linearibus marginibus revolutis, pedunculis subterminalibus unifloris. *Torr. Fl.* 1. *p.* 212.

Hab. Falls of Niagara (*Nuttall and Torrey, in Herb. nostr.*). Lake Huron. *Goldie. Dr Todd.*—I have received the same plant from Dr Schweinitz from Pennsylvania, and from English gardens, as the *L. angustifolia*, Mich., but whether it be so or not I have no means of determining. The *L. quadrifolia*, Bot. Mag. t. 660 (*L. longifolia*, Ph.) much resembles it also. It is of a very dry and harsh character, and Dr Torrey not unaptly compares its aspect with that of *Hypericum galioides:* but the foliage is larger and coarser. Young leaves frequently arising from the axils of the older ones, give them an appearance of being verticillate.

3. *L. ciliata. L.—Ph. Am.* 1. *p.* 210.

Hab. Throughout Canada to the Saskatchawan. *Dr Richardson;* and on the N. W. Coast, on the Columbia, and at Puget's Sound. *Dr Scouler. Douglas.* New Brunswick. *Mr Kendal.*

4. *L. hybrida. Mich.—Ph. Am.* 1. *p.* 135. *Torr. Fl.* 1. *p.* 75.

Hab. Canada. *Dr Holmes.* Except in the much narrower leaves, this does not differ from the preceding.

5. *L. thyrsiflora. L.—E. Bot. t.* 176. *Mich.*—L. capitata. *Ph. Am.* 1. *p.* 135.

Hab. From Lake Huron to the Mackenzie River. *Dr Richardson.* Plentiful near Spokan and Flathead Rivers of the Columbia. *Douglas.*

7. GLAUX. *L.*

1. *G. maritima. L.—E. Bot. t.* 13. *Ph. Am.* 1. *p.* 176.

Hab. Marshes near the sea, Canada. *Pursh.* Murray Bay. *Mrs Sheppard.* Newfoundland. *Dr Morison.* West Coast, north of the Columbia. *Dr Scouler. Tolmie.* Salt marshes in the plains of the Saskatchawan. *Drummond.*

8. SAMOLUS. *L.*

1. *S. Valerandi. L.—Ph. Am.* 1. *p.* 158.

Hab. Canada. *Pursh.* In all moist grounds, near springs and streams, from the Atlantic to the Pacific oceans. *Douglas.* Mount Edgecomb, N. W. Coast. *Dr Scouler.*

Ord. LXXII. PLUMBAGINEÆ. *Juss.*

1. STATICE. *L.*

1. *S. Armeria. L.—E. Bot. t.* 226. *Ph. Am.* 1. *p.* 212.

Hab. Sea-shores, probably in every latitude: on the extreme Arctic Coasts and Islands; and in Labrador, Newfoundland, and N. W. America; and the barren country of the interior.

2. *S. Caroliniana. Walt.—Ph. Am.* 1. *p.* 212.

Hab. Newfoundland. *Miss Brenton;* and probably elsewhere on the South-eastern Sea-shores.—Scarcely different from the European *S. Limonium*, to which Sprengel refers it.

Ord. LXXIII. PLANTAGINEÆ. *Juss.*

1. PLANTAGO. *L.*

1. *P. major. L.—E. Bot. t.* 1558. *Ph. Am.* 1. *p.* 98. *Rich. App. p.* 4.—β. foliis ovalibus longe petiolatis subintegerrimis.

Hab. From Lake Huron (*Dr Todd*) to lat. 68°. *Dr Richardson.* Newfoundland. *Miss Brenton.* Labrador. *Dr Morison.* Sitcha. *Bongard.*—β. Fort Vancouver and Observatory Inlet. *Dr Scouler.*—It is perhaps a var. of this that Pursh mistook for the *P. cucullata*, Lam. (*P. maxima*, Jacq. Ic. 1. t. 26.)

2. *P. cordata* (Lam.); foliis cordatis longe petiolatis sinuato-dentatis glabris, spica elongata laxiflora, capsula subrotundo-ovata biloculari loculis dispermis. *Ph. Am.* 1. *p.* 182.—P. Kentuckensis. *Mich.*

Hab. Canada. *Ph.*

3. *P. lanceolata. L.—E. Bot. t.* 507. *Ph. Am. p.* 98. *Rich. App. p.* 4.—β. spica cylindrica 1-2-pollicari.—γ. *latifolia;* foliis latioribus siccitate magis viridibus, spica elongata 3-5-pollicari.

Hab. β. Fort Norman to Arctic Sea-shore. *Dr Richardson.* N. W. Coast. *Menzies.*—γ. Plains of the Saskatchawan, Athabasca, and Red Rivers. *Dr Richardson. Douglas. Drummond.*—Besides the var. discovered by Dr Richardson, in the first journey, with the spike more cylindrical, and the bracteas perhaps generally obtuser, another and more remarkable variety, as I consider it, was found in the second journey, in the vicinity of the Saskatchawan, with broader leaves, of a pale green colour when dry, and with the spike generally 4-5 inches long. In other particulars the plants agree with the European *P. lanceolata.*

4. *P. macrocarpa* (Cham. et Schlecht. *in Linnæa*, 1. *p.* 106); foliis longe lanceolatis erectis basi in petiolum latissimum attenuatis, spica elongata cylindrica laxiflora, capsula maxima biloculari disperma integra decidente. *Bong. Veg. Sitcha. p.* 42.

Hab. Unalaschka. *Chamisso.* Sitcha. *Bongard.* Stikine, N. W. Coast, lat. 56° 30″. *Tolmie.*—A very remarkable plant, with singularly large capsules, in their ripest state, showing no disposition to dehiscence. Leaves a foot or more long, a little shorter than the scape.

5. *P. maritima. L.—E. Bot. t.* 175. *Ph. Am.* 1. *p.* 99.—var. foliis pauci-dentatis.

Hab. Point Levy, Canada. *Mrs Sheppard.* Newfoundland and Labrador. *Dr Morison.* N. W. Coast, and from the Columbia to Unalaschka. *Dr Scouler. Tolmie. Chamisso. Bongard.*—β. Newfoundland. *Miss Brenton.*—The remote but large and strong teeth in our var. bring the state of the plant near *P. Coronopus*, of which it may be a var.

6. *P. pauciflora* (Ph. *Am.* 1. *p.* 99); foliis lineari-lanceolatis integerrimis glabriusculis, scapo tereti foliis breviore, spica pauciflora interrupta, bracteis ovatis acutis glabris.—P. elongata. *Ph. Suppl.* 11. *p.* 729 (according to Nutt.).

Hab. Labrador (*Ph.*);—but I have great doubts about this plant. The original *P. elongata*, gathered by Bradbruy in Upper Louisiana, which Nuttall pronounces to be the same with *P. pauciflora*, is identical with *pusilla*, which I have never seen from British N. America, and I should think is a very unlikely inhabitant of Labrador.

7. *P. gnaphalioides* (Nutt. *Gen. Am.* 1. *p.* 100); tota longe sericeo-villosa, foliis lineari-lanceolatis acutissimis, spica elongata cylindrica densiflora, staminibus inclusis, capsula biloculari disperma.—P. Lagopus. *Ph.* (*non Linn.*)—β. bracteis longissimis spinulosis.—P. aristata. *Mx.*

Hab. N. W. America. *Menzies* (*in Herb. nostr.*). Common on the barren plains of the Columbia. *Douglas.*—The Columbia is probably the northern limit of this fine species. It is an inhabitant of the Southern United States. Mr Nuttall gathered it in Arkansa; Mr Drummond at San Felipe in Texas (Coll. III. n. 354); and the var. *aristata* in the same place (Coll. III. n. 353). Mr Nuttall has proved that the *P. aristata* is only an accidental var. of his *P. gnaphalioides.*

Subcl. IV. MONOCHLAMYDEÆ.

Div. 1. *Flores plerumque hermaphroditi.*

Ord. LXXIV. NYCTAGINEÆ. *Juss.*

1. OXYBAPHUS. *L'Hérit.*

Cal. 5-fidus, campanulatus. *Cor.* infundibuliformis. *Nux* pentagona, monosperma, calyce explanato persistente circumdata.

1. *O. hirsutus;* caule erecto subsimplici inferne præcipue pilis longis densissimis articulatis hispido, foliis sessilibus ovatis angulato-dentatis parce hirsutis, calycibus pubescenti-tomentosis.—Allionia hirsuta. *Ph. Am.* 2. *p.* 728.

Hab. About Carlton House Fort on the Saskatchawan. *Drummond.*—Bradbury (from whom there is an authentic specimen in my herbarium) discovered this plant in Upper Louisiana. The present inhabits a much more northern station, the most northerly perhaps of any of the genus; of which the species are more frequent in the south.

2. ABRONIA. *Juss.* (Tricratus. *L'Hérit.*)

Involucr. multiflorum, polyphyllum. *Cor.* infundibuliformis basi ventricosa persistens. *Stam.* 5, filamenta basi in urceolum parvum coalita. *Nucula* pentagona.

1. *A. mellifera*; magis minusve viscida, foliis ovatis petiolatis subsinuatis, floribus glabris, perianthii limbo undulato (luteo-albo). *Dougl. in Bot. Mag. t.* 2879.—A. Menziesii et vespertina. *Dougl. mst.*

Hab. Sandy barrens of the interior about the Great Falls of the Columbia, Mount Hood, and the junction of Lewis and Clarke's Rivers, and interior of N. California. *Douglas.* Moist banks of the Walla-wallah River, very frequent. *Tolmie.*—A particularly variable plant, perhaps too nearly allied to the following, with which it agrees in the colour of the flowers, but differs in the foliage; this latter again exactly resembles that of *A. umbellata* (Ex. Fl. t. 194), differing little but in the yellowish-white and downy, not red and glabrous, flowers.

2. *A. arenaria* (Menz.); viscidissima, subhirsuta, foliis cordatis seu rhombeo-cordatis integerrimis, floribus pubescentibus, perianthii limbo undulato. *Hook. Ex. Fl. t.* 193.

Hab. Sandy sea-shore, N. W. America (last journey). *Douglas.* Mr Menzies was the first to discover this plant in California.

Ord. LXXV. AMARANTHACEÆ. *Juss.*

1. AMARANTHUS. *L.*

1. *A. paniculatus. L.—Willd. Amaranth. p.* 32. *t.* 32. *f.* 2. *Ph. Am.* 1. *p.* 207.

Hab. Lake Huron to the Saskatchawan. *Dr Todd. Dr Richardson.* Columbia. *Dr Scouler.*

2. *A. albus. L.—Willd. Amaranth. p.* 9. *t.* 1. *f.* 2. *Ph. Am.* 1. *p.* 206.

Hab. A weed in the garden at Carlton House Fort. *Dr Richardson. Drummond.* Menzies' Island in the Columbia. *Douglas.*

Ord. LXXVI. CHENOPODEÆ. *Juss.*

1. SALICORNIA. *L.*

1. *S. herbacea. L.*—α. caule erecto. S. annua. *E. Bot. t.* 415. *Ph. Am.* 1. *p.* 2.

Hab. Salt marshes in the plains of the Saskatchawan.

2. *S. radicans. Sm. E. Bot. t.* 1691. *et t.* 2467. (S. fruticosa,—not of Linn.)

Hab. Straits of De Fuca, N. W. America. *Dr Scouler.*

2. CORISPERMUM. *L.*

Flores hermaphroditi ebracteati. *Cal.* 0. *Cor.* 0. *Squamula* hypogyna inter caulem et germen, v. 0. *Stam.* 1-5. *Stigmata* 2. *Caryopsis* compressa, verticalis. *Albumen* centrale. *Embryo* peripericus, dicotyledoneus. *Radicula* basilaris, descendens.—Herbæ *annuæ, ramosæ, lanuginosæ; foliis angustis planis integerrimis sessilibus alternis; floribus axillaribus sessilibus, solitariis; caryopse elliptica compressa, uno latere plana, altero convexa marginata. Ledeb.*

1. *C. hyssopifolium* (Stev.); foliis caulinis floralibusque submucronulatis uninerviis,

floribus squamula hypogyna auctis, caryopse glabra alato-marginata rostellata. *Ledeb. Fl. Alt.* 1. *p.* 10. *Pall. Fl. Ross.* 2. *p.* 112. *t.* 98. *f.* A. *Ph. Am.* 1. *p.* 4.—*α. gracile. β. robustius. δ. rubricaule.*

Hab. *α.* Sandy banks of the Saskatchawan and Athabasca and Red Rivers. *Drummond. Douglas.*—*β.* Same situations on the Athabasca (*Drummond*), and on the Columbia (*Douglas*).—*δ.* Great Slave Lake. *Dr Richardson.*—A very variable species, as is the European plant of the same name. Our var. *α.*, which is considerably hairy, would include the *C. canescens* of Kitaibel, and the *C. pilosum*, Pall., is probably scarcely different from it; whilst var. *β.* is the same as *C. Redowskii* Fisch. (in Herb. Hook.), and *C. hyssopifolium*, var., Requien (in Herb. Hook.); and var. *γ.* is the *C. nitidum*, Kit. (in Herb. Hook.).

3. EUROTIA. *Adans.*

Flores monoici ebracteati. Masc. *Cal.* 4-sepalus, inappendiculatus. *Cor.* et *squamulæ hypogynæ* nullæ. *Stam.* 4. receptaculo inserta. Fœm. *Cal.* tubulosus semibifidus, villo densissimo involutus, demum bicornis. *Cor.* et *squamulæ hypogynæ* 0. *Stigmata* 2, basi connata. *Utriculus* compressus, herbaceus. *Semen* verticale, integumentis tenuibus. *Radicula* descendens.—Fruticulus *erectus, pube stellata vestitus.* Folia *sparsa petiolata, membranacea, oblonga.* Flores *glomerato-spicati, terminales et laterales. Ledeb.*

1. *E. ceratoides. Ledeb. Fl. Alt.* 4. *p.* 239.—Diotis. *Willd.*—Ceratospermum papposum. *Pers.*—Axyris ceratoides. *L.*—Axyris fruticosa, &c. *Gmel. Sib.* 3. *t.* 11. *f.* 1.—Kraschenninnikovia ceratoides. *Guildenst. in. Nov. Com. Petrop.* 16. *t.* 17. *f.* 1-6 *et f.* 13.—Diotis lanata. *Ph. Am.* 2. *p.* 602.

Hab. Plains of the Saskatchawan. *Drummond.*—Pursh distinguished this from the European *E. ceratoides*, by its long woolly tomentum: but in this particular there is really no difference. The leaves are generally narrower in the American plant, but both these characters are variable.

4. BLITUM. *L.*

1. *B. capitatum. L.—Ph. Am.* 1. *p.* 4.

Hab. Lake Huron and various parts of Canada, to Hudson's Bay and Great Slave Lake. *Dr Richardson.*

2. *B. chenopodioides* (Nutt.); foliis hastatis subdentatis basi attenuatis, glomerulis axillaribus bracteatis, seminibus punctatis non baccatis. *Nutt. Gen. Am.* 1. *p.* 4.

Hab. Carlton House upon the Saskatchawan. *Drummond.*—A curious and very distinct annual, with small leaves and flowers, first detected by Nuttall on dry soils near the banks of the Missouri. Flowers in small axillary glomeruli, each flower consisting of one stamen and one pistil, with a punctato-reticulated ovary; its deeply bipartite style is subtended by a membranaceous reticulated oblong bractea. Perianth 0.

5. CHENOPODIUM. *L.*

1. *C. maritimum? L.—E. Bot. t.* 633. *Ph. Am.* 1. *p.* 198.

Hab. Arctic sea-coast. *Dr Richardson.*—I am uncertain about this species. It is scarcely an inch long, procumbent, very slender, with 4 to 6 or 8 leaves. Flowers axillary and clustered.

2. *C. calceoliforme;* annuum erectum alternatim ramosum glaberrimum, foliis linearisubulatis carnosis supra planis, floribus glomeratis in spicam foliosam seu bracteatam

dispositis, bracteis ovato-lanceolatis acuminatis, sepalis 4-5 carnosis calceoliformibus acutis.

Hab. About Carlton House Fort. *Drummond.*—Eight to ten inches high, with copious spiniform branches. Flowers small: each sepal is slipper-shaped, thick and fleshy.

3. *C. album. L.—E. Bot. t.* 1723. *Ph. Am.* 1. *p.* 198.—*β. viride.* C. viride. *Curt.* —C. ficifolium. *E. Bot. t.* 1724.

Hab. From Lake Huron to the Saskatchawan and the Rocky Mountains, and to Bear Lake. *Dr Richardson.* Columbia, near old camps. *Douglas. Dr Scouler.*—Extremely variable in size and ramification, and in the shape of its leaves.

4. *C. rubrum. L.—E. Bot. t.* 1721.

Hab. About the Saskatchawan. *Drummond.* Newfoundland. *Dr Morison.* Straits of De Fuca, N. W. C. *Dr Scouler.*—These specimens quite agree with the figure in E. Bot. Seeds very small.

5. *C. glaucum. L.—E. Bot. t.* 1454.

Hab. Cumberland House Fort and garden at Edmonton House, and to Hudson's Bay. *Drummond. Dr Richardson.*

6. *C. urbicum. L.?—E. Bot. t.* 717.—C. intermedium. *Mert. et Koch.*

Hab. Lake Huron, Lake Winipeg, and plains of Red River and Saskatchawan, to the Bear Lake. *Dr Richardson. Drummond.*—This I have received from the American botanists as *C. hybridum:* but that species has a more panicled inflorescence, with divaricating branches. The present exactly accords with the E. Bot. *C. hybridum.*

7. *C. humile;* parvum ramosum decumbens, foliis inferioribus ovato-spathulatis superioribus oblongis vel linearibus omnibus integerrimis petiolatis, floribus axillaribus glomeratis, glomerulis globosis.

Hab. Marshes of the Saskatchawan.—This is a small spreading plant, scarcely more than three inches in diameter, glabrous, turning almost black in drying. Glomeruli of flowers about as large as a small pea, very compact, and arising from the axil of almost every leaf.

8. *C.? zosteræfolium;* ramis copiosis plerumque oppositis divaricatis, foliis sæpe oppositis linearibus integerrimis, floribus glomerato-spicatis axillaribus terminalibusque, spicis subfoliosis.—*β.* foliis lineari-oblongis.

Hab. N. W. C. of America. *Menzies.* Columbia and Straits of De Fuca, (in salt marshes?) *Dr Scouler.* —A very singular-looking plant, with flowers so much injured by pressure that they cannot be satisfactorily examined. Branches generally opposite, and decussate, reddish, the midrib of the same colour. Leaves mostly opposite also, 3-4 inches long, and scarcely a line wide in *α.*, broader and shorter in *β.*; all quite entire. It may possibly be an *Atriplex;* and perhaps a luxuriant state of *A. Gmelini.*

9. *C.? spinosum;* fruticosum, ramis spinescentibus glabris, foliis fasciculatis obovatis carnosis subsessilibus, floribus polygamis?

Hab. Interior of North California. *Douglas.* 1826.—The specimens are very imperfect. The plant is evidently shrubby and spiny, clothed with pale-coloured, glabrous bark. Leaves scarcely half an inch long. There are a few terminal flowers, exactly like the male flowers of an *Atriplex*, or *Chenopodium* with an abortive pistil.

ATRIPLEX. *L.*

1. *A. canescens* (Nutt.); dioica diffusa argenteo-furfuracea, foliis oblongis obtusis integerrimis basi attenuatis, masc. florum glomerulis spicatis axillaribus terminalibusque, fœm. glomerulis paucifloris axillaribus sessilibus quorum sepalis dorso spinoso-cristatis.—*Nutt. Gen. Am.* 1. *p.* 197.—Calligonum canescens. *Ph. Am.* 2. *p.* 370.

Hab. Salt marshes of the Saskatchawan and of Slave River. *Dr Richardson. Drummond.*—First detected by Lewis on saline hills of the Missouri. Goats are said to be very fond of it. It has been cultivated in the Belfast Botanical Garden from seeds brought home by Mr Drummond.

2. *A. patula. L.—E. Bot. t.* 936.—var. foliis magis argenteo-furfuraceis.

Hab. Banks of the Walla-wallah, and in the valleys of the Blue Mountains, N. W. America. *Douglas.*

3. *A. littoralis. L.—E. Bot. t.* 708. *Hook. et Arn. in Bot. of Beech. Voy. p.* 129.

Hab. Kotzebue's Sound. *Beechey.*

4. *A. angustifolia. Sm. E. Bot. t.* 1774. *Cham. in Linnæa, v.* 6. *p.* 569.

Hab. Bay of Escholtz. *Chamisso.* Saline marshes of the Saskatchawan. *Drummond.* Newfoundland. *Miss Brenton.*—Perhaps merely a var. of the preceding, having the leaves exceedingly variable.

5. *A. Gmelini* (Meyer); annuum erectum viride, foliis oblongo-linearibus subintegerrimis, calycibus fœmineis herbaceis bipartitis ovato-rhombeis acutis integerrimis disco lævibus. *Bong. Veg. de Sitcha. p.* 42. *Gmel. Sib.* 3. *p.* 72. *t.* 14. *f.* 2.

Hab. Sitcha and Kotzebue's Sound. *Bongard.*—A very dubious species, and the specimens which have been kindly sent me by M. Bongard seem to be identical with those of Chamisso, which the latter author describes as var. *obtusa nana* of *A. angustifolia*, from the Bay of Escholtz.

BATIS. *L.*

1. *B.? vermiculata;* fruticosa ramosissima, foliis alternis elongatis linearibus teretibus carnosis, amentis masculinis terminalibus, squamis cuspidatis.

Hab. Common on the barren grounds of the Columbia, and particularly near salt marshes. *Douglas.*—Four to six feet high. A very remarkable shrub, of which the male catkins alone appear to have been found. These are rather more than half an inch long, clothed with peltate, pedicelled angular scales, of which the upper angle is elongated into a mucro, and beneath which are 3? or 4? sessile 2-celled anthers. The leaves are an inch to an inch and a half long, slender, fleshy and vermicular.

Ord. LXXVII. PHYTOLACCEÆ. *Br.*

1. PHYTOLACCA. *L.*

1. *P. decandra. L.—Bot. Mag. t.* 931. *Ph. Am.* 1. *p.* 324.

Hab. Lake Huron. *Dr Todd.*—Of this, the *Poke-weed*, the young sprouts are, in the United States, eaten like Asparagus.

Ord. LXXVIII. POLYGONEÆ. *Juss.*

1. KONIGIA. *L.*

1. *K. Islandica. L.—Fl. Dan. t.* 418.

Hab. Moist mountains N. of the Smoking River. *Drummond.* Bay of Escholtz. *Chamisso.*

2. OXYRIA. *Br.*

1. *O. reniformis. Hook.*—Rumex digynus. *E. Bot. t.* 910. *Ph. Am.* 1. *p.* 248.

Hab. Common in the Rocky Mountains and on the Arctic Sea-shores. *Dr Richardson. Drummond. Capt. Sir E. Parry.* Labrador. *Dr Morison.* Sitcha. *Bongard.* Unalaschka. *Chamisso.*

3. RUMEX. *L.*

1. *R. Acetosa. L.—E. Bot. t.* 127.

Hab. Prairies of the Rocky Mountains. *Drummond.* "Assuredly wild in Canada," *Mrs Percival;* and Newfoundland. *Miss Brenton.* (Naturalized?)

2. *R. Acetosella. L.—E. Bot. t.* 1674.

Hab. Canada. *Dr Todd, Mrs Sheppard;* to the Saskatchawan. *Drummond.* Gravelly soils, N. W. America. *Douglas. Dr Scouler.* Newfoundland. *Dr Morison. Mr Cormack.* (Probably introduced from Europe.)

3. *R. crispus. L.—E. Bot. t.* 1998.

Hab. Canada. *Mrs Sheppard. Mrs Percival.*

5. *R. domesticus* (Hartm.); foliis inferioribus e basi subcordata v. ovata oblongis, caulinis lanceolatis undulato-crispis subtus scabridis, verticillis subaphyllis congestis, sepalis int. demum cordatis v. suborbiculari-cordatis obtusiusculis integerrimis crenulatisve omnibus nudis. *Cham. et Schlecht. in Linnæa, v.* 3. *p.* 60. *Reichenb. Iconogr. Bot. t.* 345 (excellent). *Bong. Veg. de Sitcha, p.* 43. *Hook. et Arn. in Bot. of Beech. Voy. p.* 129.—R. aquaticus, *β. Wahl.—β. nanus*, purpurascens.

Hab. Marshes of the Saskatchawan, to the Rocky Mountains. *Drummond.*—*β.* Arctic Sea-coast. *Dr Richardson.* Unalaschka. *Chamisso.* Sitcha. *Bongard.* Kotzebue's Sound. *Beechey.*—This quite agrees with my European specimens of the species from Podolia, with others from Greenland, and with the figure of Reichenbach. Dr Richardson's specimens are very dwarf, about a span high, and much tinged with purple.

6. *R. salicifolius* (Weinm.); foliis caulinis lanceolatis acuminatis planiusculis, verticillis infimis foliolosis reliquis aphyllis approximatis, floribus diclinis monoicis, sepalis int. demum oblongo-ovatis obtusiusculis integerrimis, 1 (vel 2) granulifero.—*β.* sepalis int. demum omnibus granuliferis. *Bot. Zeit.* 1821. *p.* 28. *Cham. et Schlecht. in Linnæa*, 3. *p.* 60. *Bong. Veget. de Sitcha, p.* 43. *Hook. et Arn. in Bot. Beech. Voy. p.* 157.—S. verticillatus. *Rich. App. p.* 11. (*vix L.*)—R. pallidus. *Bigel.* (*in Herb. nostr.*)

Hab. Lake Winipeg, to Great Bear Lake and Mackenzie River. Columbia River. *Dr Scouler.* Sitcha. *Bongard.* Newfoundland. *Miss Brenton.*—I believe the true *R. verticillatus* to be an inhabitant only of the

more southern parts of N. America. The present seems to vary considerably in the presence or absence of the large grain on one or more of the valves. But the species is certainly very widely dispersed in British N. America.

7. *R. acutus. L.—E. Bot. t.* 724. *Rich. App. p.* 11.

Hab. Woody country. *Dr Richardson.*

8. *R. sanguineus. L.—E. Bot. t.* 1533. *Ph. Am.* 1. *p.* 247.—β. foliis omnino viridibus. R. viridis. *Sibth.*—R. Nemolapathum. *Ehrh.*

Hab. Barren country beyond lat. 64°. *Dr Richardson.*—β. Canada. *Mrs Sheppard.* Newfoundland. *Miss Brenton.*

9. *R. persicarioides. L.—Ph. Am.* 1. *p.* 248. *Hook. et Arn. in Bot. Beech. Voy. p.* 158. —an R. maritimus. *L.? E. Bot. t.* 725.

Hab. Plains of Saskatchawan to the mountains. *Drummond.* N. W. Coast, frequent. *Douglas.* Hudson's Bay. *Drummond. Douglas.*—Dr Arnott and myself have expressed our fears, in the place above quoted, when speaking of this as a Californian plant, that it was not really distinct from our *R. maritimus.* It has a most extensive range. We possess it from China, and from Port George in Patagonia. Sometimes the teeth of the enlarged sepals are shorter, and then the species appears to pass into *R. palustris,* Sm.

10. *R. venosus* (Ph.); caule dichotomo, foliis subcoriaceis ovato-lanceolatis valde acutis petiolatis parallelo-venosis, floribus hermaphroditis, sepalis int. demum reniformi-cordatis reticulatis maximis integerrimis nudis. (Tab. CLXXIV.)—*Ph. Am.* 2. *p.* 733. *Nutt. Gen. Am.* 1. *p.* 240.

Hab. Carlton House Fort on the Saskatchawan. *Dr Richardson.* Common throughout the barren grounds of the Columbia to the source of Lewis and Clarke's River. *Douglas.*—A very fine and most distinct species, first discovered by Mr Bradbury in Upper Louisiana. The enlarged inner sepals are often the size of a shilling.

Tab. CLXXIV. Rumex venosus. *Fig.* 1, Flower; *f.* 2, Fruits: *nat. size;*—*f.* 3, Single fruit:—*magnified.*

3. POLYGONUM. *L.*

§ 1. Bistorta.

1. *P. Bistorta. L.—E. Bot. t.* 509. *Cham. et Schlecht. in Linnæa,* 3. *p.* 37.—P. ellipticum. *Willd. Herb. Spreng.*—P. bistortoides. *Ph. Am.* 1. *p.* 271.

Hab. Arctic Sea-coast. *Dr Richardson.* N. W. Interior. *Douglas* (last journey).—Our specimens seem almost intermediate between the present and following species. They have no bulbs on the spike or raceme; in the Arctic individuals (4-5 inches high) the flowers are purple, the leaves ovato-lanceolate, glaucous beneath. In the specimen from Douglas, the flowers appear to be white, the lowest leaves even are broadly lanceolate, tapering at the base, and of nearly the same colour on both sides. In both, the raceme is elliptical.

2. *P. viviparum. L.—E. Bot. t.* 669. *Ph. Am.* 1. *p.* 271. *Cham. et Schlecht.* 3. *p.* 38. *Rich. App. p.* 43.

Hab. Lower Canada (*Ph.*), to the Arctic sea-coast and islands. *Dr Richardson. Sir E. Parry, &c.* Swampy ground in the Rocky Mountains. *Drummond.* Labrador. *Dr Morison. Miss Brenton.* N. W. America, Observatory Inlet (*Dr Scouler*), to Behring's Straits. *Chamisso.*

§ 2. Achinogonon.

3. *P. alpinum* (All. *Ped. t.* 68. *f.* 1.) floribus majusculis albis demum roseis purpureisve, achenio calyce tecto faciebus ovato-rhomboideis lævibus, paniculis ramosis, foliis lanceolatis acuminatis breviter petiolatis minute pubescentibus margine ciliatis, ochreis pilosis, caule erecto glabriusculo ramoso, ramis adscendentibus. *Meisn. Polyg. p.* 56. *t.* 3. *G. Cham. et Schlecht. in Linnæa*, 3. *p.* 38.—*β.* foliis ovato-acuminatis subtus pubescentifuscis. *Hook. et Arn. in Bot. of Beech. Voy. p.* 129.—*γ.* foliis ovato-acuminatis glaberrimis.

Hab. *β.* Kotzebue's Sound. *Chamisso. Beechey.*—*γ.* Arctic Sea-coast. *Dr Richardson.*

§ 3. Fagopyrum.

4. *P. Fagopyrum. L.—E. Bot. t.* 1044. *Meisn. Polyg. p.* 61. *Ph. Am.* 1. *p.* 273.

Hab. New Brunswick. *Lieut. Kendal.* (Probably introduced.)

§ 4. Teniaria.

5. *P. Convolvulus. L.—E. Bot. t.* 941. *Ph. Am.* 1. *p.* 273.

Hab. Canada (*Mrs Sheppard*), to the Saskatchawan and Hudson's Bay. *Dr Richardson. Drummond.* Newfoundland. *Miss Brenton.*

6. *P. cilinode* (Mich. *Am.* 1. *p.* 241); perenne, calyce non alato, floribus parvulis patulis, achenio calyce abscondito faciebus ellipticis utriusque attenuatis lævibus nitidis angulis acutis, racemulis parvis subpaniculatis, ochreis basi serie ciliorum paullo deflexorum coronatis, foliis margine ciliatis petiolisque retroflexis, caule ascendente scandente. *Meisn. Polyg. p.* 63. *t.* 5. *f.* 18—20.

Hab. From Lake Huron (*Dr Todd*), throughout Canada, to the Saskatchawan and Hudson's Bay. *Dr Richardson. Drummond.*

7. *P. sagittatum* (L.); floribus 6-8-andris, achenio acuminato faciebus tenerrime punctato-striatis, pedunculis communibus plerumque geminatis, foliis sagittato-oblongis, nervo dorsali petiolis ochrearum basi angulisque caulis retrorsum aculeatis, ochreis cylindraceis truncatis, caule prostrato aut ascendente. *Meisn. Polyg. p.* 65.—*β. boreale;* foliis petiolatis debilibus margine non cartilagineo-ciliatis, ciliis apicem spectantibus, ochreis laceris margine truncato nudis, capitulis parvis sphæricis. *Meisn. l. c. Ph. Am.* 1. *p.* 241. *Gmel. Sib.* 3. *p.* 65. *t.* 13. *f.* 2.

Hab. *β.* Canada, to the Saskatchawan. *Dr Richardson. Drummond.* Newfoundland. *Miss Brenton.*

§ 5. Persicaria.

8. *P. amphibium. L.—E. Bot. t.* 436.—P. coccineum. *Ph. Am.* 1. *p.* 271.—*α. natans;* glabrum, caule natante demerso radicante, foliis ovato-ellipticis spicisque brevibus obtusis. *Meisn. l. c. p.* 67.—P. coccineum, aquaticum. *Ph. Am.* 1. *p.* 271.—*β. terrestre;* majus, caule ascendente, foliis pilis brevibus scabris ovato-lanceolatis spicisque elongatis acuminatis. *Meisn. l. c. p.* 67.—P. coccineum, terrestre. *Ph. Am.* 1. *p.* 271.

Hab. *α.* Canada. *Pursh; Mrs Percival;* to the Saskatchawan and Great Slave Lake. *Dr Richardson. Drummond.*—*β.* Marshy places of the Saskatchawan. *Dr Richardson. Drummond.* N. W. America, about Fort Vancouver and Walla-wallah, *Tolmie;* and Straits of De Fuca. *Dr Scouler.*

9. *P. Persicaria* (L.); annuum, floribus 6-aut 8-andris, di-aut-trigynis, achenio lenticulari aut triquetro calyce abscondito angulis obtusis faciebus lævibus, calyce 4-aut 5-partito, spicis ovato-oblongis s. sublinearibus, bracteis turbinato-infundibuliformibus parvis, ochreis truncatis, foliis lanceolatis petiolatis sæpe macula atra semilunari v. triangulari medio notatis. *Meisn. Polyg. p.* 68.—P. Pennsylvanicum. *L.?*—*β. lapathifolium. L.*—*E. Bot. t.* 1382.—*γ. minus;* spicis angustioribus.

Hab. *α.* Lake Huron, to the Saskatchawan and Hudson's Bay. *Dr Richardson. Drummond..*—*α.* and *β.* N. W. C. of America. *Douglas. Tolmie.*—*γ.* Saskatchawan to Great Bear Lake. *Dr Richardson.*

10. *P. Hydropiper. L.*—*E. Bot. t.* 989. *Ph. Am.* 1. *p.* 238.—P. Mite. *Ell.*—P. hydropiperoides. *Mx.*

Hab. Canada to the Saskatchawan. *Dr Richardson. Drummond.*

11. *P. Virginianum* (L.); perenne, floribus 5-andris digynis, calyce 4-partito, achenio pyriformi compresso majusculo lævi, spicis virgatis subsimplicibus longis, ochreis bracteisque truncatis ciliatis angustis, foliis ovatis acuminatis cauleque erecto hirsutis. *Meisn. Polyg. p.* 81. *Ph. Am.* 1. *p.* 270.

Hab. Canada. (*Ph.*) *Dr Holmes.*

§ 6. Aviculabia.

12. *P. aviculare. L.*—*E. Bot. t.* 1252. *Ph. Am.* 1. *p.* 269.

Hab. Throughout Canada, to lat. 65°, frequently with larger foliage and more erect stems. (*P. erectum,* Willd.) Newfoundland and Labrador. *Dr Morison. Miss Brenton.* Sitcha. *Bongard* (sub nom. *P. buxifolii,* Nutt.). N. W. America. *Douglas. Tolmie.*—A most variable plant, from two inches to a foot or more in height or length, for the stems are sometimes erect, sometimes procumbent. Leaves from 2 or 3 lines to 2 inches long. Nuttall says his *P. buxifolium* (*P. avic. latifol.* Mx.) has 5 stamens, not 8, as is usual.

13. *P. Paronychia* (Cham.); suffruticosum, inflorescentia dense capitata, floribus axillaribus in apicibus confertis magnis 8-andris, stylo germinis longitudine, stigmatibus 3 filiformibus brevibus, achenio lanceolato triquetro lævi, foliis lineari-lanceolatis margine revolutis, nervo subtus prominente canaliculato utrinsecus hirto, ochreis basi vaginantibus longitudine foliorum. *Cham. et Schlecht. in Linnæa,* 3. *p.* 52. *Hook. et Arn. in Bot. of Beech. Voy. p.* 158.—P. confertiflorum. *Dougl. mst.*

Hab. N. W. America, in the sand of the sea-shore from California (*Chamisso, Beechey*), to the Straits of De Fuca. *Mr Menzies. Douglas.*—A remarkably fine and very distinct species, discovered by Menzies during the voyage of Captain Vancouver. Flowers forming a large dense capitate spike.—The same, or a very nearly allied species, was found by Mr Drummond at Apalachicola in West Florida.

14. *P. tenue* (Mich.); floribus axillaribus sessilibus solitariis majusculis, achenio acutangulo faciebus ovatis medio sublævibus nitidis versus angulos punctato-rugulosis, ochreis capillaribus deciduis, foliis lineari-filiformibus acutissimis (superioribus floriferis

sensim minoribus bracteiformibus), caule herbaceo erecto dichotomo, ramis elongatis spiciformibus. *Meisn. Polyg. p.* 91. *Ph. Am.* 1. *p.* 270.—P. filiforme. *Bart.*—P. linifolium. *Muhl.—Spreng.*

Hab. Canada. (*Ph.*) Sandy banks of the Saskatchawan. *Drummond.* North W. America. *Douglas.* Walla-wallah River, where the small annual root is eaten by the natives.—6 inches to a foot high, stiff and wiry.

15. *P. coarctatum* (Dougl. mst.); annuum dichotomum erectum v. diffusum, foliis linearibus vel lineari-lanceolatis acutis marginibus revolutis, ochreis basi vaginantibus folio brevioribus, floribus trigynis axillaribus in foliis superioribus coarctatis, achenio ovato-trigono minutissime punctato.—P. lineare. *Menz. mst.*—*α.* floribus folio brevioribus. —*β.* floribus folio longioribus.

Hab. N. W. America. *Menzies. Dr Scouler.* On the sandy barrens of the Columbia and its branches, and on the higher branches of the Multnomak. *Douglas.*—*β.* Prairies at Nusqually Bay, N. W. America. *Tolmie.*—This seems a very distinct species of the "*Avicularia*" section, and to be wholly confined to the Pacific side of America. Stems from 3 inches to a foot long, slender and wiry.

§ 7. Polygonella. *Nutt.*

16. *P. articulatum* (Willd.); erectum ramosum rigidum 8-andrum trigynum, foliis parvis linearibus, ochreis truncatis, pedunculis terminalibus racemosis articulatis, bracteis ochreiformibus, floribus nutantibus 5-sepalis. *Ph. Am.* 1. *p.* 272.

Hab. Canada. (*Ph.*) About the Saskatchawan. *Dr Richardson. Drummond.*—A very remarkable species, which Meisner, as well as Michaux, seem to think should form a distinct genus.

5. ERIOGONUM. *Mich.*

Involucrum tubulosum, campanulatum vel cyathiforme, vix angulatum, subæqualiter 6-dentatum, multiflorum. *Receptaculum* bracteolis intra pedicellos instructum. *Perianthia* exserta, profunde 6-fida. *Benth. in Linn. Trans. v.* 17. *p.* 407.

§ 1. Umbellata. *Benth.*

1. *E. sphærocephalum* (Dougl. mst.); caule ramoso folioso, foliis fasciculatis verticillatisve oblongis basi angulatis subtus albo-lanatis, pedunculis subsimplicibus, involucro subsolitario late campanulato tomentoso multifloro, perianthiis extus sericeo-pilosis. (Tab. CLXXV.)—*Benth. l. c. p.* 407.

Hab. Common on the Columbia River, on rocks of the "Stony Islands," and Priest's Rapid. *Douglas.* —A small shrub, with leafy branches, and capitate umbels of yellow flowers.

Tab. CLXXV. Eriogonum sphærocephalum. *Fig.* 1, Involucre with flowers; *f.* 2, Single flower; *f.* 3, Pistil:—*magnified.*

2. *E. flavum* (Nutt. *in Fras. Cat.*); foliis ad basin caulis approximatis spathulato-obovatis oblongisve subtus vel utrinque albo-lanatis, pedunculo apice breviter umbellato, involucris ad apices radiorum solitariis late campanulatis lanatis multifloris, perianthiis sericeo-villosis. *Benth. l. c. p.* 408.—E. sericeum. *Ph. Am.* 1. *p.* 277.

Hab. Summits of the Blue Mountains. *Douglas.*—Leaves all radical, as they mostly are in the eight following species, densely woolly beneath. Scapes a span or more high. Heads of flowers in dense yellow umbels, with short rays.

3. *E. crassifolium* (Benth.); caule brevissimo incrassato vaginis foliorum villosissimis obtecto, foliis radicalibus petiolatis oblongis basi longe angustatis crassis supra tomentoso-pubescentibus subtus albo-lanatis, scapo apice breviter umbellato, involucris sessilibus vel ad apices radiorum solitariis campanulatis lanatis multifloris, perianthiis sericeo-villosis. (Tab. CLXXVI.)—*Benth. l. c. p.* 408.

Hab. Carlton House Fort on the Saskatchawan. *Dr Richardson.*—A beautiful and very distinct species, with a long thick tap root, very woolly at the neck among the leaves. Umbels more or less lax or compact. Flowers yellow.

Tab. CLXXVI. Eriogonum crassifolium. *Fig.* 1, Involucre with flowers; *f.* 2, Single flower; *f.* 3, Pistil:—*magnified.*

4. *E. cæspitosum* (Nutt. *Journ. Ac. Nat. Sc. Phil.* 7. *p.* 50. *t.* 8. *f.* 2.); caule brevissimo vaginis foliorum glabriusculis obtecto, foliis radicalibus oblongo-linearibus basi longe angustatis supra læviter subtus dense albo-tomentosis, scapo apice breviter umbellato, involucris sessilibus vel ad apices radiorum solitariis campanulatis lanatis. *Benth. l. c. p.* 408.

Hab. Alpine spots among the Rocky Mountains, at an elevation of 10,000 feet. *Drummond.*—A small tufted species, with the habit of a *Primula* or *Androsace.* Flowers full yellow.

5. *E. ovalifolium* (Nutt. *l. c. p.* 50. *t.* 8. *f.* 1.); foliis ad basin caulis approximatis subrotundo-ovalibus basi in petiolum angustatis utrinque dense albo-lanatis, involucro ad apicem pedunculi solitario globoso multifloro vel paucis sessilibus, perianthiis glabris vel basi vix pubescentibus. *Benth. l. c. p.* 409.

Hab. Summits of the Blue Mountains, N. W. America. *Douglas.*—Stems short, much branched, tufted; the lower leaves black and decayed, the upper ones broadly spathulate and white on both sides, with dense wool. Scape 3-5 inches, with a circle of leaves above the middle: in other words, the upper portion of the scape is a single ray of an involucrated abortive umbel.

6. *E. Tolmieanum;* suffruticosum basi ramosum, ramis brevibus tortuosis foliosis, foliis ovatis in petiolum attenuatis supra viridibus glabriusculis subtus albo-tomentosis, scapo nudo gracili, involucris multifloris perpaucis in umbellam parvam capitatam 1-2 foliosam congestis campanulatis subtrifidis pedicellis multo brevioribus.

Hab. Banks of the Walla-wallah River, among *Artemisia. Tolmie.*—Habit of the preceding, but smaller and of slenderer growth. Scape quite naked. Flowers small, yellow, appearing at first sight to be densely capitate. Each involucre is almost sessile, and crowded with flowers, which are much protruded: and one or two leaves arise from the base of the umbel.

7. *E. stellatum* (Benth.); foliis ad basin caulis approximatis ovalibus basi in petiolum longe angustatis supra glabriusculis subtus canescentibus, pedunculo apice simpliciter vel bis umbellato, involucris in umbellula paucis villosulis sexfidis, laciniis lanceolatis tubo longioribus reflexo-patentibus, perianthiis glabris. (Tab. CLXXVII.)—*Benth. l. c. p.* 409.

Hab. Blue Mountains of the N. W. Interior. *Douglas.*—My specimens of this have the leaves (of which two or three arise from the scape) exactly like those of *Statice oleifolia*, slightly downy, and only so beneath. Umbels frequently compound and lax.

Tab. CLXXVII. *Fig.* 1, Involucre with flowers; *f.* 2, Single flower; *f.* 3, Pistil:—*magnified.*

8. *E. umbellatum* (Torr. *in Ann. Lyc. N. Hist.* 2. *p.* 241); foliis ad basin caulis approximatis oblongo-linearibus subtus vel utrinque albo-lanatis, pedunculo apice umbellato, involucris ad apices radiorum solitariis late campanulatis lanatis multifloris dentibus tubo brevioribus, perianthiis glabris. *Benth. l. c. p.* 410. *t.* 18. *f.* 2.

Hab. On the high grounds of Salmon River, and valleys near the Kettle Falls on the Columbia. *Douglas.*—Scape about a span high.

9. *E. heracleoides* (Nutt. *l. c. p.* 49); foliis ad basin caulis approximatis spathulato-oblongis subtus albo-lanatis, pedunculis elongatis apice biumbellatis, involucris in umbellula plurimis pedicellatis late campanulatis lanatis multifloris, perianthiis glabris. *Benth. l. c. p.* 410.

Hab. North-west interior, above the Kettle Falls of the Columbia. *Douglas.*—My specimens of this fine plant are 1½ foot high, and the leaves, including the petioles, 3-4 inches long. Umbels large, yellow?

10. *E. compositum* (Dougl. mst.); foliis ad basin caulis approximatis longe petiolatis ovatis basi rotundatis cordatisve supra demum glabratis subtus dense albo-lanatis, pedunculo longissimo nudo apice breviter biumbellato, involucris breviter pedicellatis campanulatis multifloris. *Benth. l. c. p.* 410. *t.* 17. *f.* 10. *et in Bot. Reg. t.* 1774.

Hab. Common on the gravelly banks of the Columbia, and of the N. W. interior generally, especially on the Blue Mountains. *Douglas.*—A fine and stout species, with large compound umbels of yellow flowers.

§ 2. Latifolia. *Benth.*

11. *E. nudum* (Dougl. mst.); foliis ovatis margine undulatis basi rotundatis v. subcordatis supra arachnoideo-lanatis demum glabris subtus albo-lanatis, pedunculo 2-3-chotome paniculato, capitulis lateralibus terminalibusque, involucris in capitulo 1-3 sessilibus tubuloso-campanulatis glabris, bracteolis vix plumosis. *Benth. l. c. p.* 413.—E. arachnoideum. *Hook. et Arn. in Bot. of Beech. Voy. p.* 158. (*non Eschsch.*)

Hab. Plains of the Multnomak River, and between the "Grand Rapids" and "Great Falls" of the Columbia. *Douglas.*—A stout-growing plant, 1-3 feet high. Differs from *E. latifolium* (of California) in being more glabrous, and in the inflorescence. Bracteas beneath the involucres and ramifications, ovate. Teeth of the involucre short, obtuse. Bracteoles setaceous, scarcely exserted. Segments of the perianth nearly equal.

12. *E. elatum* (Dougl. mst.); foliis amplis oblongis undulatis supra villosulis subtus velutinis, involucris glomeratis pedicellatis tubuloso-campanulatis glabris. *Benth. l. c. p.* 413.

Hab. Plains of Multnomak and Cape Mendocino, New California; common. *Douglas.*—Leaves very large, 5-6 inches long without the petiole.

§ 3. Micrantha.

13. *E. strictum* (Benth.); suffruticosum, foliis parvis oblongo-ovatis basi in petiolum

longe angustatis subtus vel utrinque albo-lanatis, pedunculis strictis gracilibus subdichotomis, involucris parvis sessilibus terminalibusque paucifloris glabriusculis, dentibus brevissimis subæqualibus. ***Benth. l. c. p.* 414.**

Hab. Columbia River and Blue Mountains. *Douglas.*—" Suffrutex basi cæspitosus, dense foliosus. *Pedunculi* scapiformes, juncei, pedales et ultra, basi simplices nudi, a medio 2-3-chotomi, ramis omnibus strictis rigidis erectis tenuibus. *Bracteæ* parvæ, lineares. *Involucra* pauca, secus ramos sessiles, pleraque ad apices ramorum terminalia, vix lineam longa. *Perianthia* exserta, laciniis exterioribus demum valde auctis."

14. *E. niveum* (Dougl. mst.); suffruticosum, foliis oblongis basi angustatis pedunculoque albo-lanatis, bracteis patentibus, involucris tenuibus niveis paucifloris, dentibus alternis minutis. ***Benth. l. c. p.* 414.**

Hab. Rocky and sandy soils near the " Great Falls" of the Columbia and valleys of the Blue Mountains. *Douglas.*—" *Suffrutex* basi cæspitosus, foliosus. *Folia* fere *E. flavi.* *Pedunculi* scapiformes, pedales et ultra."

15. *E. dichotomum* (Dougl. mst.); suffruticosum, foliis oblongis basi angustatis pedunculoque albo-lanatis, bracteis brevibus appressis, involucris crassiusculis dense lanatis plurifloris sessilibus, dentibus brevibus subæqualibus. *Benth. l. c. p.* 415.

Hab. Common on the banks of the " Great Falls" of the Columbia, and of the river Utalla, N. W. America. *Douglas.*—" Affine *E. niveo,* sed rigidum strictum. *Bracteæ* involucro dimidio breviores, appressæ. *Involucra* tubulosa, duplo majora quam in *E. niveo.* *Flores* exserti, magnitudine fere *E. compositi.* *Filamenta* basi pilis paucis donata. *Ovarium* glaberrimum."

16. *E. decumbens* (Benth.); suffruticosum, foliis ovatis petiolatis utrinque cano-tomentosis, pedunculi ramis flexuosis floccoso-lanatis, bracteis involucrum æquantibus patentibus, involucris crassiusculis dense lanatis plurifloris sessilibus, dentibus recurvo-patentibus alternis minutis. ***Benth. l. c. p.* 415.**

Hab. Columbia River. *Douglas.* Walla-wallah. *Tolmie.*—" *Rami* foliiferi elongati, duri, dense tomentosi. *Folia* pollicaria, petiolo 1-2-pollicari. *Bracteæ* inferiores oblongæ, foliaceæ, ultra pollicares, superiores lineares. *Involucra* forma fere *E. nivei,* magnitudine *E. dichotomi.* Species habitu distinctissima."

17. *E. vimineum* (Dougl. mst.); annuum, foliis subradicalibus petiolatis ovatis subtus tomentosis, pedunculis scapiformibus divaricato-ramosissimis apice involucrisque glaberrimis. *Benth. l. c. p.* 416.

Hab. Barren grounds of the Columbia, near the base of the Blue Mountains. *Douglas.*—" *Pedunculi* scapiformes, complures, basi sublanati, 6-8-pollicares. *Rami* tenues, virgati. *Involucra* tenuia, cylindrica, sessilia, dentibus brevibus obtusis subæqualibus. *Perianthia* breviter exserta, laciniæ *exteriores* per anthesin patulæ obovatæ, *interiores* erectæ dimidio angustiores."

Ord. LXXIX. LAURINEÆ. *Juss.*

1. BENZOIN. *N. ab E.*

1. *B. odoriferum. N. ab E. Syst. Laur. p.* 497.—Laurus Benzoin. *L.—Ph. Am.* 1. *p.* 276.—L. pseudo-Benzoin. *Mx.*—Evosmus Benzoin. *Nutt.*

Hab. Canada. (*Ph.*)

2. SASSAFRAS. *N. ab E.*

1. *S. officinale. N. ab E. Syst. Laur. p.* 488.—Laurus Sassafras. *L.—Ph. Am.* 1. *p.* 277.

Hab. Canada. (*Ph.*)

3. TETRANTHERA. *Jacq.*

Flores dioici, rarius hermaphroditi, involucrati. *Perianthium* plerumque 6-partitum. *Stam. fert.* 9, triplici serie. *Anth.* 4-locellatæ, introrsum dehiscentes. *Staminodia* (glandulæ filamentorum) 6, per paria staminibus 3 interioribus adjuncta. *Stigma* peltatum. *Bacca* tubo floris explanato imposita.—Inflorescentia *umbellata. N. ab E.*

1. *T. Californica* (Hook. et Arn. *in Bot. of Beech. Voy. p.* 159); hermaphrodita, foliis perennantibus oblongo-lanceolatis vix acutis penninerviis reticulato-venosis glabris, pedunculis axillaribus simplicibus, floribus pluribus, umbella subcapitata, pedunculis folio brevioribus.—Laurus regia. *Douglas, mst.*

Hab. N. W. America. First found by *Mr Menzies* in New California, south of the Columbia. *Douglas.*—Mr Douglas observes, that "this elegant evergreen tree, which attains the height of 40 to 120 feet, and from 2 to 4 feet in the diameter of its stem, forms the connecting link between the gloomy Pine-forests of N. W. America and the tropical-like verdure of California. The foliage, when bruised, gives out a most powerful camphor-like scent; and even during severe hurricanes, I have been obliged to remove from under its shade, the odour being so strong as to occasion violent sneezing. The hunters often make use of a decoction of the leaves, which they take without any bad effect; indeed it stimulates the system, and produces a glow of warmth."—Flowering specimens are in Mr Douglas' collection from California, which prove this plant to be a true *Tetranthera.*

Ord. LXXX. ELÆAGNEÆ. *Juss.*

1. ELÆAGNUS. *L.*

1. *E. argentea* (Ph. *Am.* 1. *p.* 114); inermis, foliis ovato-oblongis utrinque acutis argenteo-lepidotis, floribus fasciculatis nutantibus, fructibus globosis. *Rich. App. p.* 5.

Hab. Canada. *Mrs Sheppard;* and from the Grand Rapids of the Saskatchawan to the Rocky Mountains, and to lat. 69° near the coast. *Dr Richardson. Drummond.* Hudson's Bay. *Nuttall.*—This is indeed very nearly allied to some *Elæagni* of the Old World, particularly to *E. parvifolia*, Wall., *E. orientalis*, L., and to some specimens in my herbarium of *E. angustifolia.* The leaves seem to be variable in shape; but I think in our plant the flowers are more drooping than in those just mentioned, and the fruit more globose and as mealy as the leaves. "It is the *Waw-pisk-keemena* of the Cree Indians. The bark peels off in the winter, the moment it is thawed, which is not the case with other plants." *Rich. mst.* Drummond observes that the flowers are very fragrant. The branches and leaves are alternate.

2. SHEPHERDIA. *Nutt.*

Diocia. Masc. *Perianthium* 4-fidum. *Stam.* 8 inclusa, glandulis 8 alternantibus.—Fœm. *Perianthii* tubus ovarium arcte investiens, (non adhærens) limbo 4-lobo. *Stylus* 1. *Stigma* obliquum. *Bacca* calyce carnoso tecta globosa, monosperma.—Frutices *Boreali-Americanæ, ramis spinescentibus foliisque deciduis oppositis, argenteo-nunc etiam ferrugineo-lepidotis.* Flores *aggregati.*

1. *S. Canadensis* (Nutt.); foliis elliptico-ovatis supra nudiusculis subtus stellato-pilosis ferrugineo-squamulosisque.—Hippophae Canadensis. *Willd.—Ph. Am.* 1. *p.* 115. *Rich. App. p.* 38.

Hab. Throughout Canada to Fort Franklin on the Mackenzie River, and from Newfoundland and Hudson's Bay to the Rocky Mountains. *Dr Richardson. Drummond.* N. W. Coast. *Mr Menzies.*

2. *S. argentea* (Nutt.); foliis oblongo-lanceolatis utrinque dense subargenteo-lepidotis. (Tab. CLXXVIII.)—Hippophae argentea. *Ph. Am.* 1. *p.* 113.

Hab. Saskatchawan; between Carlton and Edmonton House Forts. *Dr Richardson. Drummond.*—This is a species very distinct from the preceding, at once known by its more spreading branches, narrower leaves covered on both sides with copious somewhat silvery scales, and pellucid fruit, of so bright a red that the Indians call the plant *Metheoo-meeva,* or *Bloody Berry.* Pursh mentions its great similarity with *Elæagnus argentea;* but here the leaves are much narrower, less silvery, and they, as well as the branches, are opposite: and the flowers and fruit are extremely dissimilar.

Tab. CLXXVIII. Shepherdia argentea. A. Male Plant. *Fig.* 1, Flower; *f.* 2, Flower laid open.—B. Female Plant. *Fig.* 3, Female flower; *f.* 4, Ditto, laid open, showing the pistil; *f.* 5, Stigma; *f.* 6, Fruit (*nat. size*); *f.* 7, Fruit; *f.* 8, Fruit laid open; *f.* 9, Seed:—*magnified.*

Ord. LXXXI. THYMELEÆ. *Juss.*

1. DIRCA. *L.*

Perianthium coloratum, tubuloso-campanulatum, limbo obsoleto. *Stam.* 8, exserta, inæqualia. *Stylus* filiformis. *Drupa* monosperma.—Frutex *Bor.-Americana, ramis articulatis.* Flores *sub frondescentia, terni e singula gemma.* Liber *tenacissimus.*

1. *D. palustris. L.—Ph. Am.* 1. *p.* 268. *Gawl. in Bot. Reg. t.* 292.

Hab. Canada. *Cleghorn. Drummond.*

Ord. LXXXII. SANTALACEÆ. *Br.*

1. COMANDRA. *Nutt.*

Perianthium suburceolatum, tubus ovario adhærens, limbo 5-4-partito. *Stam.* 5 vel 4 petalis opposita summo tubi inserta. *Discus* perigynus tubum investiens, 5-lobum, lobis cum staminibus alternantibus. *Fructus* subdrupaceus, 1-spermus, perianthii limbo coronatus.—Suffrutices *glaberrimæ, basi subsarmentosæ, erectæ, Boreali-Americanæ: foliis alternis integerrimis.* Pedunculi *axillares terminalesque.* Flores *umbellulati parvi.*

1. *C. umbellata* (Nutt. *Gen. Am.* 1. *p.* 157); caule ramoso, foliis lanceolatis subrigidis, umbellulis in paniculas foliosas terminales dispositis, perianthii laciniis oblongis erectis. (Tab. CLXXIX. A.)—*Rich. App. p.* 8.—Thesium umbellatum. *L.*—*Ph. Am.* 1. *p.* 177. —T. corymbulosum. *Mx.*

Hab. From Lake Huron to the Saskatchawan, and to the Rocky Mountains. *Dr Richardson. Drummond. Douglas. Dr Todd.* Dry banks of the Columbia River. *Tolmie. Gairdner.*—This species is correctly described by Mr Nuttall, except that he considers the five laciniæ of the perianth as the five petals of a corolla inserted upon the edge of a tubular calyx, which most assuredly is not the case. He well observes the curious tuft of hairs by which each anther is attached at the back to the segment of the perianth. The fruit seems to be chartaceous, enveloped by the thickened tube of the perianth, and thus somewhat drupaceous. In this species it is only the *lower* part of the tube that is united with the ovary: and the persistent upper free portion of this tube forms a sort of neck at the top of the fruit.

Tab. CLXXIX. A.—Comandra umbellata. *Fig.* 1, Umbel of flowers; *f.* 2, Flower laid open; *f.* 3, Segment of the perianth, with the stamen, exhibiting the tuft of filaments at the back of the anther; *f.* 4, Fruit (*nat. size*); *f.* 5, Fruit;—*magnified.*

2. *C. livida* (Rich. *App. p.* 9); caule simplici, foliis ellipticis flaccidis, umbella solitaria axillari pedunculata triflora, perianthii laciniis brevibus patentibus. (Tab. CLXXIX. B.)

Hab. From Lake Winipeg to the Rocky Mountains, and to lat. 69° on the Mackenzie River. *Dr Richardson. Drummond.* Newfoundland and Labrador. *Miss Brenton. Dr Morison.*—This is a very distinct species, and has been well described by Dr Richardson. Here the whole tube of the calyx is incorporated with the germen; the limb short and spreading. Filaments, also, and style very short. There is ripe fruit upon the specimens, but pressed and injured. The single seed, however, appears to be attached near the middle to a funiculus, which rises from the base of the cell.

Tab. CLXXIX. B.—Comandra livida. *Fig.* 1, Umbel of flowers; *f.* 2, Single flower; *f.* 3, Segment of the perianth, with the stamen; *f.* 4, Fruit (*nat. size*); *f.* 5, Fruit; and *f.* 6, Fruit cut through transversely, containing the seed:—*magnified.*

Ord. LXXXIII. ARISTOLOCHIEÆ. *Juss.*

1. ASARUM. *L.*

1. *A. Canadense. L.*—*Ph. Am.* 2. *p.* 596. *Hook. Bot. Mag. t.* 2769.—*β.* perianthii lobis longissimis subulato-acuminatissimis.

Hab. Throughout Canada to the Saskatchawan. *Dr Richardson. Drummond.*—*β.* Abundant in shady pine woods, among moss, on the N. W. Coast. *Douglas.*—This species varies exceedingly in the length of the acumination of the lobes of the perianth; but none of the specimens from the east side of the Rocky Mountains have them much more than half the length of those from the Pacific side of America: these lobes appear also to be much more erect, the flowers larger, and the leaves more truly cordate and less downy. Future observation may prove it to be a distinct species, as Mr Douglas considered it.

Div. 2. *Flores plerumque Monoici vel dioici.*

Ord. LXXXIV. EMPETREÆ.

1. EMPETRUM. *L.*

1. *E. nigrum. L.—E. Bot. t.* 375. *Ph. Am.* 1. *p.* 93.

Hab. Near the Sea-coast in Canada. *Michaux;* at Murray Bay. *Mrs Sheppard.* Newfoundland. *Miss Brenton.* Throughout the woody and barren country, abundant, to the Arctic Sea-shore and Islands. *Dr Richardson. Sir E. Parry.*

Ord. LXXXV. EUPHORBIACEÆ. *Juss.*

1. EUPHORBIA. *L.*

1. *E. hypericifolia* (L.); glabra v. parce pilosa ramosissima erecto-patula dichotoma, ramis divaricatis, foliis oppositis serratis ovali-oblongis subfalcatis, corymbis foliosis subterminalibus. *Ph. Am.* 2. *p.* 605. *Hook. Ex. Fl. t.* 36 (caule subsimplici).

Hab. Canada (*Ph.*), to the Saskatchawan. *Dr Richardson. Drummond.*—These specimens are often hairy.

2. *E. polygonifolia* (L.); glaberrima diffusa ramosissima gracilis dichotoma, foliis oppositis oblongis subfalcatis obtusis integerrimis, floribus subsolitariis axillaribus. *Jacq. Coll. Suppl. t.* 13. *f.* 3. *Ph. Am.* 2. *p.* 606.

Hab. Canada (*Ph.*), to Carlton House Fort on the Saskatchawan. *Drummond.* On Menzies' Island, and at the Grand Rapids of the Columbia, N. W. America. *Douglas.*

3. *E. platyphylla. L.*—E. stricta. *E. Bot. t.* 333.

Hab. Lake Huron. *Dr Todd.* Norway House Fort on the Saskatchawan. *Dr Richardson.* Plains of the Columbia River. *Douglas.* Probably introduced from Europe.

4. *E. obtusata* (Ph. *Am.* 2. *p.* 606); umbella 3-fida bis dichotoma, involucellis ovatis obtusiusculis subcordatis, foliis alternis sessilibus spathulatis involucellisque serrulatis glabris, capsulis muricatis. *Ph.*

Hab. Near Quebec. *Mrs Sheppard.* Canada. *Drummond.*—Apparently rare in the British possessions. Only three specimens were gathered by Mr Drummond. The leaves are truly obovato-cuneate.

5. *E. pilosa* (L.); umbella 5-radiata tri-deinde biradicellata, foliis serrulatis pilosis, imis oblongis obtusiusculis, superioribus lanceolatis, involucellis ovatis, capsulis asperis pilosis. *Reich. Iconogr. Bot. t.* 149. *Ph. Am.* 2. *p.* 605.

Hab. Canada. *Goldie.* (Probably introduced.)—Pursh, however, gives it as an inhabitant of the mountains of Maryland and Virginia.

6. *E. corollata. L.—Ph. Am.* 2. *p.* 607. *Hook. Bot. Mag. t.* 2992.

Hab. Canada. *Ph.*

2. CROTON. *L.*

1. *C.? setigerum;* annuum parvum dichotome ramosum pilis stellatis ubique incano-tomentosum, caule petiolisque setis patentibus hispidissimis, foliis late ovatis obtusis petiolo brevioribus.

Hab. Plentiful on Menzies' Island, and on sandy banks of the Columbia upwards. *Douglas.*—Only one specimen of this, I regret to say, is in my possession, and it has no more than a few male flowers developed amongst the small terminal leaves, which seem to form a kind of involucre beneath them. Whole plant scarcely the height of one's finger; clothed every where with stellated tomentum; the petioles and stem and branches, besides, bearing patent bristles or rigid hairs, somewhat bulbous at their base. Leaves in general nearly an inch long, most crowded at the top of the branches, where the innermost or uppermost are very small about the flowers.

3. ACALYPHA. *L.*

1. *A. Virginica. L.—Ph. Am.* 1. *p.* 604.

Hab. Canada (*Ph.*), to the Saskatchawan. *Drummond.*

Ord. LXXXVI. URTICEÆ. *Juss.*

1. URTICA. *L.*

1. *U. pumila* (L.); monoica, foliis oppositis ovatis acuminatis trinerviis serratis, petiolis inferioribus longitudine folii, floribus triandris capitato-corymbosis petiolo brevioribus. *Ph. Am.* 1. *p.* 112.

Hab. Canada. *Ph.*

2. *U. urens. L.—E. Bot. t.* 1236. *Ph. Am.* 1. *p.* 113.

Hab. Canada. *Ph.* Newfoundland. *Miss Brenton.* (Imported.)

3. *U. dioica. L.—E. Bot. t.* 1750. *Ph. Am.* 1. *p.* 113.

Hab. Canada. *Ph.* (Imported.)

4. *U. gracilis* (Ait.); dioica erecta stricta parce hispida, foliis ovato-lanceolatis sub-acuminatis grosse subduplicato-serratis trinerviis supra nudiusculis, subtus ad nervos hispidis, spicis elongatis pinnatim ramosis folio subbrevioribus, floribus glomeratis. *Rich. App. p.* 36.—U. procera? *Willd.*

Hab. From Lake Huron *(Dr Todd)*, to the Saskatchawan, and throughout the woody country, generally, on the east of the Rocky Mountains, as far as Fort Franklin, on the Mackenzie River. *Dr Richardson. Drummond.*

5. *U. Canadensis* (L.); foliis alternis cordato-ovatis acuminatis penninerviis membranaceis utrinque cauleque hispidis longe petiolatis, paniculis plerumque geminatis divaricato-ramosissimis petiolo longioribus. *Ph. Am.* 1. *p.* 114.—*β. minor.* U. divaricata. *L. Ph.*

Hab. Canada. (*Ph.*) Lake Huron. *Dr Todd.*—I cannot distinguish *U. divaricata* from *U. Cana-*

densis, unless it be that the latter is the taller plant of the two. Pursh describes it as monœcious, but all my specimens, both from British America and from the United States, are truly diœcious, as observed by Linnæus. The fibre of the stem is copious and strong, and Mr Whitlaw endeavoured to recommend it to this country as an article of commerce.

2. BŒHMERIA. *L.*

1. *B. cylindrica* (Willd.); foliis oppositis ovato-oblongis acuminatis dentatis glabris, floribus dioicis, spicis masculis glomeratis interruptis, fœmineis cylindricis, caule herbaceo. *Ph. Am.* 1. *p.* 112.—Urtica cylindrica. *L.*—β. spicis brevioribus subcapitatis.—Urtica capitata. *L.*?—*Ph. Am.* 1. *p.* 113.

Hab. α. and β. Canada. *Ph. Cleghorn. Dr Holmes.*—I have already, in my account of Mr Drummond's plants from the Southern United States, observed that I consider the *Urtica capitata* as a mere var. of *Bœhmeria cylindrica.*

3. HUMULUS. *L.*

1. *H. Lupulus. L.—E. Bot. t.* 427. *Ph. Am.* 1. *p.* 199.

Hab. Plentiful on the higher parts of Red River, and on the Assinaboine in the 49th lat., which is its northern range, and where only in favourable seasons it perfects its fruit. *Douglas.* New Brunswick. *Mr Kendal.*

4. CANNABIS. *L.*

1. *C. sativa. L.—Ph. Am.* 1. *p.* 199.

Hab. Canada. *Mrs Percival.* Lake Huron. *Dr Todd.*

Ord. LXXXVII. ULMACEÆ.

1. ULMUS. *L.*

1. *U. Americana. L.—Mich. N. Am. Sylv.** 3. *p.* 83. *t.* 126. *Ph. Am.* 1. *p.* 199.

Hab. Canada. *Ph.*—Saskatchawan to York Factory, Hudson's Bay.

2. *U. fulva. Ph. Am.* 1. *p.* 199.

Hab. Canada. *Ph. Drummond.*—Leaves of what I take to be this, and flowering specimens of two species of *Elm*, are in the collection, but they cannot be determined satisfactorily.

2. CELTIS. *L.*

1. *C. occidentalis. L.—Mich. N. Am. Sylv.* 3. *p.* 45. *t.* 114. *Ph. Am.* 1. *p.* 200.

Hab. Canada. *Ph.* On the rocky banks of the Columbia River, N. W. America, in the driest places, where no other tree can live. *Douglas.*

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* The edition from which I quote is that of "Philadelphia, 1819."

Ord. LXXXVIII. GARRYACEÆ. *Lindl.*

1. GARRYA. *Lindl.*

Dioica.—Masc. *Perianth.* tetraphyllum. *Stam.* 4. Fœm. *Perianth.* superum bidentatum. *Ovarium* 1-loculare; stylis duobus setaceis; ovulis duobus ab apice funiculorum totidem pendulis. *Pericarpium* baccatum, indehiscens, dispermum. *Embryo* minimus in basi albuminis carnosi.—Frutex (*Boreali-Americana, ora occidentali*). Flores *intra bracteas connatas, in spicis amentaceis pendulis dispositi. Lindl. Bot. Reg. p.* 1686.

1. *Garrya elliptica. Dougl. Herb. Lindl. l. c. t.* 1686.

Hab. Plentiful on the shore, in rocky situations, on the south side of the Columbia, near its confluence with the sea. *Douglas.*—This fine plant was first detected by Mr Menzies in California, whence also Mr Douglas sent it, in his second and last expedition. It forms a handsome hardy evergreen shrub in the garden of the Horticultural Society at Chiswick. Its wood exhibits no concentric circles or dotted vessels. The flowers are in long catkins, subtended by large connate bracteas.—See Dr Lindley's description above quoted for further particulars relative to its structure.

Ord. LXXXIX. SAURUREÆ. *Rich.*

1. SAURURUS. *L.*

1. *S. cernuus. L.—Ph. Am.* 1. *p.* 252.

Hab. Canada. *Ph.*

Ord. XC. JUGLANDINEÆ. *DC.*

1. JUGLANS. *L. Nutt.*

1. *J. cinerea. L.—Ph. Am.* 2. *p.* 636. *Mich. N. Am. Sylv.* 1. *p.* 160. *t.* 31. (J. cathartica). *Bigel. Med. Bot. t.* 32.

Hab. Canada. *Ph. Mrs Sheppard.*—This is the *Butter-nut* and *Oil-nut* of the Americans, and is said to be nearly allied to *J. nigra,* (the *Black Wallnut*): "but the fruit is oblong, with a protuberant summit, and the nut much more deeply and irregularly sculptured."

2. CARYA. *Nutt.*

1. *C. alba* (Nutt.); foliolis 5-7 longe petiolatis oblongo-lanceolatis acuminatis acute serratis subtus villosis terminali sessili, amentis filiformibus glabris, fructu depresso-globoso, nuce compressa obliqua.—Juglans alba. *Mich. Am.—Ph. Am.* 2. *p.* 637.—J. squamosa. *Mich. N. Am. Sylv.* 1. *p.* 181. *t.* 36.

Hab. Canada. *Dr Beck.—Shell or Shag-bark Hickory.* "A very large and valuable tree, with the bark separating in large flat scales or plates. *Nut* with a thinner shell than that of most other species, and of fine flavour. *Pericarps* thin, globose, depressed at the summit. Timber much prized in consequence of the fineness of its grain and elasticity of the fibre." *Beck.*

2. *C. amara* (Nutt.); foliolis plerumque 9 ovato-oblongis acuminatis acute serratis utrinque glabris, fructu subgloboso, nuce lævi mucronata testa fragili.—Juglans amara. *Mich. N. Am. Sylv.* 1. *p.* 170. *t.* 33. *Ph. Am.* 2. *p.* 637.

Hab. Canada. *Dr Beck. Dr Holmes.*—The *Bitter-nut, White or Swamp Hickory.*—A large tree. *Nut* small, almost obcordate, with bitter and astringent kernels. *Beck.*—Probably other species of *Carya,* found in the northern U. States, may also exist in Canada; but I have received no specimens of them, nor any information concerning them.

Ord. XCI. AMENTACEÆ. *Juss.*

Trib. I. Salicineæ. *Rich.*

1 SALIX. *L.*

§ 1. Cinereæ. *Amenta ovata et ovato-cylindracea, præcocia. Stam.* 2. *Ovarium pedicellatum. Folia ovata obovata lanceolatave incana, v. rugosa, v. lana alba pilisve griseis vestita, plerumque integerrima: sæpe marginibus revolutis. Fruticuli* (S. rostrata *excepta*). *Barrett. mst.*

1. *S. candida* (Willd.); foliis lanceolatis v. lineari-lanceolatis rigidiusculis acutis apice obsolete serrulatis supra ramulisque arachnoideis subtus niveo-tomentosis margine tenui revolutis, stipulis ovato-lanceolatis deciduis petiolum æquantibus, amentis oblongo-cylindraceis erectis, floribus densis, squamis obovatis obtusis fuscis pistillo duplo brevioribus longissime villosis, ovariis lanceolatis albo-lanatis stylo longioribus, stigmatis lobis bifidis. *Ph. Am.* 2. *p.* 608. *Rich. App. p.* 37. *Salict. Wob. p.* 181. *t.* 91.—β. foliis magis rugosis. *Rich.*

Hab. Throughout the woody country. *Dr Richardson. Drummond. Douglas.*—A beautiful species; the catkins very compact, white, with dense wool, tipped with the deep coloured style and stigmas, and subtended by the dark scale, with long delicate hair. In the ripe catkins, the pistils are nearly half an inch long, and three or four times as long as the style. A shrub 4-6 feet high.

2. *S. Drummondiana* (Barratt, mst.); ramis elongatis strictis glabris subrobustis, foliis obovato-oblongis rigidiusculis integerrimis vel apice obsoletissime serrulatis margine tenui revolutis, stipulis ovatis longitudine fere petioli longe persistentibus, amentis cylindraceis erectis compactis, squamis ovato-lanceolatis fuscis longe sericeis pistillo plusquam dimidio longioribus, ovariis ovatis acuminatis dense pilis brevibus sericeis nitidis, stylo breviusculo, stigmatis lobis brevibus bifidis vel integris.—β. ovariis glabris.

Hab. Marshes and prairies of the Rocky Mountains. *Drummond.*—Branches long and rather stout, clothed with a glabrous, rich brown, glossy, wrinkled bark. Leaves two inches long, an inch broad above the middle, quite free from pubescence, and very slightly wrinkled; below white, with dense tomentum; the costa yellowish-brown, nearly glabrous. Stipules white beneath, like the leaves. Catkins about an inch or rather more long in the flowering state, twice as much in fruit. Pistils spreading, very crowded:—in β. quite glabrous, and in this var. the silky hairs of the scales are longer than in the usual state of the plant.

3. *S. villosa* (Don? *in Ph. Herb. Canad.*); ramis foliisque junioribus lana arachnoidea villosis, foliis lato-lanceolatis acutis subrigidis integerrimis margine parum revolutis,

adultis superne glabris subtus glaucis albo-lanatis demum glabriusculis, stipulis semicordatis petiolo sublongioribus, amentis fœmineis (fructiferis) bi-triuncialibus ellipticis erectis, squamis oblongo-ovatis fuscis capsula lanceolato-acuminata pubescenti-tomentosa quadruplo brevioribus, stylo brevi, stigmatis lobis bifidis.—β. *acutifolia;* foliis magis acutis vel subacuminatis.

Hab. Canada. *Ph.?* Rocky Mountains. *Drummond;* thence to the Arctic Sea-coast.—β. Fort Franklin on the Mackenzie River. *Dr Richardson.*—Leaves from two to four or nearly five inches long. Mature female catkins very large. I regret not to have perfect specimens of this plant. Indeed I should not have ventured to introduce it, were it not that Dr Barratt considers it to be the same as *S. villosa* of D. Don, in "*Pursh, Herb. Canad.*"

4. *S. Scouleriana* (Barratt, mst.); ramis strictiusculis fuscis subrobustis demum glabris, foliis obovato-lanceolatis integerrimis submembranaceis margine planis supra nudiusculis subtus argenteo-sericeis, amentis oblongo-cylindraceis demum recurvatis densifloris, squamis obovatis nigro-fuscescentibus sericeo-villosis pistilli dimidio longioribus, ovariis ovato-lanceolatis acuminatis sericeis, stylo obsoleto, stigmatis lobis integris.

Hab. North West America, on the Columbia. *Dr Scouler.* Fort Vancouver. *Tolmie.*—Bark dark-brown, almost black in the older specimens. Young leaves silky on both sides: adult ones (rarely exceeding an inch in length) nearly glabrous above, beautifully silky beneath. Catkins an inch and a half long, drooping: the silky germens are much concealed by the large dark-coloured scales.

5. *S. Hookeriana* (Barratt, mst.); ramis valde robustis pubescentibus, junioribus dense tomentoso-lanatis, foliis late obovatis fere subrotundatis rigidiusculis serratis margine planis supra (adultis) nudiusculis subtus tomentoso-lanatis, stipulis —? amentis cylindraceis crassis, squamis longe densissime lanatis, ovariis longe stipitatis lanceolatis glaberrimis, stylo breviusculo, stigmatis lobis integris. (Tab. CLXXX.)

Hab. Near the Grand Rapids of the Saskatchawan, rare. *Douglas.* N. W. Coast of America. *Scouler.*—A stout but low growing shrub, with very thick straight branches. The male catkins look like a dense cylindrical mass of wool, which entirely conceals the scales, the stamens only being protruded beyond the wool. The leaves are 2-3 inches long, one inch to an inch and a half wide, clothed with greyish woolly down beneath. Pistils perfectly glabrous, even its stipes; and the lobes of the stigma are always entire.

Tab. CLXXX. A. Branch of a male plant; *f.* 1, Scale and stamens. B. Branch of a female plant; *f.* 2, Scale with its pistil:—*figs.* 1 *and* 2 *magnified.*

6. *S. speciosa* (Hook. et Arn. *in Bot. of Beech. p.* 130); ramis densissime (sæpe flavo-) sericeis, foliis oblongo-lanceolatis subovatisve acutis vel acuminatis integerrimis supra nudiusculis subtus petiolisque niveo-tomentosis, stipulis persistentibus lineari-lanceolatis subulatisve membranaceis fuscis petiolo longioribus, amentis elongatis crassis densissime sericeis, squamis nigrescentibus longitudine fere ovarii pilis longis mollissimis sericeis, ovariis ovato-acuminatis sessilibus sericeis; stylo longissimo, stigmatis lobis linearibus bipartitis.

Hab. Kotzebue's Sound. *Beechey.* Fort Norman and Fort Franklin on the Mackenzie River. *Dr Richardson.* On the very elevated of the Rocky Mountains. *Drummond.*—The foliage of this remarkably handsome *Salix*, which were all Dr Arnott and myself were acquainted with from Kotzebue's Sound, we have fully described in the Flora above quoted. In the present collection are fine flowering and fruiting

specimens. The amenta are 3-4 inches long, and nearly $\frac{3}{4}$ of an inch in diameter, most beautifully clothed with long, yellowish-white, silky hairs, beyond which the very long slender brown styles, equal in length with the ovary, are protruded.—There is another Willow, also gathered at Fort Franklin by Dr Richardson, with the habit of the present; but the stems are less silky, the *young* leaves (there are no adult ones) almost glabrous, and not in the least woolly even beneath, the catkins equally silky and beautiful with the present, though shorter, and the styles equally long; but the ovary is quite glabrous.—This and the two following, which Dr Barratt is inclined to refer to his § PROSTRATÆ, I bring, on account of their affinity with *S. candida* and *S. Hookeriana*, to this section.

7. *S. Barrattiana;* ramis subrobustis flexuosis cicatricatis, foliis obovato-oblongis acutis basi cordatis mollibus glanduloso-serrulatis utrinque (subtus præcipue) pubescenti-sericeis junioribus argenteo-sericeis, stipulis semiovatis glabriusculis glanduloso-serratis petiolo longioribus, amentis cylindraceis *masc.* ovali-oblongis, *fœm.* elongatis densifloris pulcherrime sericeis, squamis nigrescentibus ovarium subæquantibus longe sericeis, ovariis lanceolatis brevi-stipitatis sericeis stylo longioribus, stigmatis lobis fissis. (TAB. CLXXXI.) **S. Helvetica? *Barratt, mst.***

HAB. Alpine swamps in the Rocky Mountains. *Drummond.*—A species equal in beauty to, but not excelled by, the *S. speciosa* and *S. lanata*, which latter it resembles in many respects. It forms a dwarf shrub, with rather tortuous, stout, and nearly glabrous branches, clothed with dark-brown bark, and marked with the scars of former years' leaves. Leaves 2-3 inches long, blunt and cordate at the base, and, amongst the silky clothing, the margin will be found to be minutely serrated, and the serratures glandular (especially near the base) as are those of the stipules more distinctly; from these glands proceed a powerful balsamic smell. Male catkins 2 inches long, splendidly silky. Stamens 2. Female catkins 4 inches long, flexuose, very silky.—I name this species in compliment to Dr Barratt, of Middletown, Pennsylvania, who has devoted the same attention to the Willows of N. America, that Mr Borrer, and the late Mr Crowe, and Mr Anderson, have done to those of Britain, and who kindly undertook the task of looking over the whole of the collection here described, and referred them to his own mst. section of the "*Salices Americanæ.*" I only regret that I could not induce him to undertake the descriptions of them likewise. But I have profited by many of his observations that have been liberally communicated to me.

TAB. CLXXXI. A. Branch of a male plant; *f.* 1, Scale and stamens from the amentum. B. Branch of a female plant; *f.* 2, Scale and pistil from the amentum; *f.* 3, Base of a leaf and stipules:—*figs.* 1—3 *magnified.*

8. *S. adenophylla;* ramis brevibus subrobustis lanatis, foliis ovatis basi cordatis acutis subcoriaceis fere omnino sessilibus reticulatim venosis argute serratis serraturis elongatis glanduliferis lana sericea dense obsitis demum ætate nudiusculis, stipulis ovato-cordatis grosse glanduloso-serratis, amentis fœmineis elongatis pedunculatis, capsulis ovatis acuminatis glaberrimis, stylo elongato, stigmatis lobis fissis.

HAB. Labrador. *Dr Morrison.*—I know no species like this, well marked as it is by the copious long narrow serratures to the leaves tipped with a gland, so that the leaf looks as if it were fringed with pedicellated glands. These leaves are an inch or more long, clothed, even when fully grown, with long silky tomentum on both sides, but which is deciduous on the oldest leaves. Mr Borrer hints at its probable affinity with *S. fœtida*, De Candolle Fl. Fr., but that is now referred by its author "and Duby, in the *Fl. Gallica*," to *S. vacciniifolia* of Sm., with which this has little in common. The catkins are old, but the capsules retain the form of the ovary, and are perfectly glabrous.

9. *S. rostrata* (Rich.); ramis erectis strictiusculis pubescentibus (demum glabris), foliis lato-seu obovato-lanceolatis acutis integerrimis serratis submembranaceis demum subcoriaceis supra nudiusculis subtus glaucis cano-pubescentibus, stipulis semicordatis dentatis, amentis *masc.* breviusculis cylindricis densifloris, *fœm.* demum valde elongatis laxis, squamis oblongis membranaceis apice pilosis stipitis vix longitudine, ovariis anguste lanceolatis sericeis longe acuminatis longissime stipitatis, stylo perbrevi, stigmatis lobis bifidis vel integris. *Rich. App. p.* 37 (*excl. syn.* S. phylicifoliæ, *Sm.*).

Hab. From Hudson's Bay to the Prairies of the Rocky Mountains, and to Fort Franklin on the Saskatchawan. *Dr Richardson. Drummond. Douglas.* Head waters of the Columbia. *Douglas.*—Copious specimens of this plant show that it is, like other Willows, subject to much variation, and the appearance of the young and old foliage, and young and old female catkins, are very different. The colour of the bark is sometimes pale-yellow or deep-brown, sometimes almost black. The lax female catkins, the long, narrow, silky germens, and above all the great length of the stipes, are its best distinguishing features. Dr Barratt finds the same species about Middletown, Pennsylvania, and it is probably not uncommon in the United States. It is the largest of the "Cinereæ" group, being sometimes ten feet high.

§ 2. Discoloræ. *Amenta ovalia vel cylindrica præcocia, glabra, sericea vel piloso-lanata. Squamæ nigricantes. Stam.* 2. *Germina stipitata subpubescentia. Folia subcoriacea decidua serrata v. denticulata subtus glauca pubescentia, supra glabra, nitida. Barratt, mst.*

(The species of this group constitute large spreading shrubs and small trees, and are the first to put forth their catkins in the spring.)

10. *S. discolor* (Willd.); "foliis oblongis obtusiusculis glabris remote serratis apice integerrimis subtus glaucis, stipulis deciduis lanceolatis serratis, amentis subcoœtaneis diandris oblongis tomentosis, squamis oblongis acutis atris pilosis, germinibus subsessilibus lanceolatis tomentosis, stylo mediocri, stigmatibus bipartitis." *Ph. Am.* 2. *p.* 613. *Muhl. in Ann. of Bot.* 2. *t.* 5. *f.* 1. *Salict. Wob. p.* 279.—β. foliis subtus magis glaucis, stylis longioribus.

Hab. Lake Winipeg and Saskatchawan. *Dr Richardson. Douglas.* Newfoundland. *Miss Brenton.*—β. Norway House Fort. *Dr Richardson.*—Branches with female catkins and young foliage, from the Saskatchawan, are marked as truly *S. discolor* of Willdenow, by Dr Barratt; and one or two specimens with older foliage, gathered at another period, and in another part of the country, are supposed to be the old foliage. The Newfoundland specimens exactly accord with United States specimens sent me by Dr Barratt. Our var. β. has, besides the characters above alluded to, a less silky germen, and it may perhaps constitute a new species.

11. *S. Richardsoni;* ramis brevibus glabriusculis, foliis obovato-lanceolatis integerrimis glabris subtus glaucis junioribus ciliatis, stipulis parvis deciduis lanceolatis dentatis, dentibus glandulosis, amentis fœmineis solitariis terminalibus oblongo-cylindraceis densifloris, squamis oblongis fuscis longe pilosis, ovariis ovato-lanceolatis acuminatis glabris, stylo longissimo, stigmatis lobis linearibus recurvis bipartitis. (Tab. CLXXXII.)

Hab. Fort Franklin on the Mackenzie River. *Dr Richardson.*—This appears to be a very distinct species, remarkable for the great length of the style. It is to be regretted that very few specimens were procured of it.

Tab. CLXXXII. Salix Richardsoni. *Fig.* 1, Scale and pistil:—*magnified.*

§ 3. Griseæ. *Amenta cylindracea subbrevia præcocia. Stam.* 2. *Germina sessilia v. stipitata griseo-sericea. Folia lanceolata serrata, subtus griseo-sericea siccitate nigricantia. Fructices ramis fragilibus cortice intense amara. Barratt, mst.*

12. *S. petiolaris* (Sm.); foliis lanceolatis serratis junioribus griseis subtus pilis brevibus sericeis, ovariis stipitatis ovato-lanceolatis valde sericeis, stigmatis subsessilis lobis bipartitis, squamis villosis stipite vix longioribus. *E. Bot. t.* 1147. *Salict. Wob. p.* 45. *t.* 23. *Ph. Am.* 2. *p.* 616.

Hab. Lake Winipeg. *Dr Richardson.*

13. *S. rosmarinifolia* (L.); foliis lineari-lanceolatis sericeis (junioribus præcipue) integerrimis v. paucidentatis dentibus minutis glandulosis, amentis brevibus oblongis curvatis laxis, germinibus stipitatis sericeis lanceolato-acuminatis, stylo longitudine stig matis bipartiti linearis, squamis brevibus villosis. *E. Bot. t.* 1365. *Salict. Wob. p.* 173. *t.* 87. *Ph. Am.* 2. *p.* 612.

Hab. Saskatchawan. *Dr Richardson.*

§ 4. Viminales. *Amenta cylindrica, præcocia. Germina subsessilia sericea. Folia linearia v. lanceolata glabra v. pubescentia. Fructices v. Arbusculæ, ramis longis flexilibus.*

14. *S. viminalis. L.—E. Bot. t.* 1898. *Salict. Wob. p.* 265. *t.* 133. *Ph. Am.* 2. *p.* 608.

Hab. Canada. *Dr Holmes. Mrs Sheppard.*

15. *S. purpurea. L.—E. Bot. t.* 1388. *Salict. Wob. p.* 1. *t.* 1. *Rich. App. p.* 37?

Hab. Cumberland House Fort. *Dr Richardson.*

§ 5. Fragiles. *Amenta cylindrica, laxa, acuminata, coætanea. Squamæ viridi-flavæ, pubescentes v. glabræ. Stam.* 2-5. *Germina glabra. Folia lanceolato-falcata serrata, denticulata v. integerrima. Barratt, mst.*

16. *S. fragilis. L.—E. Bot. t.* 1807. *Salict. Wob. p.* 53. *t.* 27. *Rich. App. p.* 37.

Hab. Woody country. *Dr Richardson.* Labrador. *Dr Morrison.*

17. *S. lucida* (Willd.); foliis adultis ovato-oblongis tenui-acuminatis basi rotundatis subcoriaceis nitidis glabris stipulisque semiovatis glanduloso-serratis, amentis cylindraceis erectis pedunculatis, stam. 3-5, bracteis oblongis membranaceis, germinibus ovatis acuminatis stipitatis glabris, stylo breviusculo, stigmatis lobis bifidis. *Ph. Am.* 2. *p.* 615. *Muhl. in Ann. of Bot.* 2. *t.* 5. *f.* 7. *Salict, Wob. p.* 63. *t.* 32.—β. foliis lanceolatis.

Hab. Throughout Canada (*Mrs Sheppard, Cleghorn*), from Lake Huron (*Dr Todd*) to the Saskatchawan and Jasper's Lake in the Rocky Mountains (*Drummond*), and to the Columbia River (*Douglas, Scouler, Dr Gardner*), and as far north as Fort Franklin on the Mackenzie River. *Dr Richardson.*—This is perhaps one of the most generally diffused of all the Willows in British N. America, and is nearly allied to our European *S. pentandra.*

18. *S. nigra* (Willd.); foliis lanceolatis utrinque acutis serrulatis concoloribus glabris junioribus parce ad nervos præcipue puberulis, stipulis exiguis deciduis, amentis elongatis

laxis flexuosis, stam. 5, filamentis basi barbatis, squamis oblongis villosis patentibus, germinibus ovatis stipitatis fuscis glabris vel basin versus subsericeis, stigmate sessili lobis bifidis. *Ph. Am.* 2. *p.* 614. *Muhl. in Ann. of Bot.* 2. *t.* 5. *f.* 5. *Salict. Wob. p.* 280.

Hab. Canada. *Cleghorn.*—This very distinct species is extremely common in the Southern United States; rare in the North.

19. *S. falcata* (*Ph.*); foliis longissimis anguste falcato-lanceolatis acuminatis serratis unicoloribus glabris junioribus præcipue ad nervos subsericeis, stipulis magnis lato-lunatis serratis deflexis, amentis fœmineis elongatis multifloris laxiusculis, squamis deciduis, ovariis ovato-acuminatis stipitatis glabris, stylo brevissimo, stigmatis lobis subintegris. *Ph. Am.* 2. *p.* 614. *Salict. Wob. p.* 279.

Hab. Canada. About Quebec. *Mrs Sheppard.*—The long, falcate leaves, and large, broadly lunate, reflexed stipules, readily distinguish this species. I am not acquainted with the male catkins.

20. *S. longifolia* (Willd.); foliis lineari-lanceolatis acutissimis (quandoque spinuloso-) serratis concoloribus glabris junioribus sericeis, amentis pedunculatis erectis, *masculis* compactis, *fœm.* laxiusculis, squamis oblongis obtusis pallidis extus glabris intus basique lanatis fœmineis valde deciduis, ovariis ovatis longe acuminatis brevi-stipitatis glabris, stigmate perbrevi sessili lobis bifidis. *Ph. Am.* 2. *p.* 613. *Muhl. in Ann. of Bot.* 2. *t.* 5. *f.* 6.—S. rubra. *Rich. App. p.* 37 (*non Huds.*).—*β.* foliis plerisque sericeis.

Hab. Canada (*Cleghorn*), to the Mackenzie River, *Dr Richardson;* and at Jasper Lake in the Rocky Mountains, growing in drifting sands. *Drummond.*—*β.* N. W. America, on the Columbia (Fort Vancouver, *Tolmie*) and its tributary streams near the mountains. *Douglas.*

§ 6. Cordatæ. *Amenta ovata, cylindracea, coætanea. Squamæ rubræ v. fuscæ. Stam.* 2-3. *Germina stipitata glabra. Folia cordata* (?) *glabra. Stipulæ cordatæ serratæ. Frutices majusculæ, ramis dichotomis, flexilibus. Barratt, mst.*

21. *S. cordata* (Willd.); "foliis oblongo-lanceolatis acuminatis basi cordatis (v. acutis) argute serratis glabris subtus pallidioribus, stipulis amplis ovato-subrotundatis cartilagineo-serratis, amentis coætaneis subtriandris, squamis lanceolatis lanatis atris, germinibus pedicellatis lanceolatis glabris, stylo brevissimo, stigmatibus bifidis." *Ph. Am.* 2. *p.* 615. *Muhl. in Ann. of Bot.* 2. *t.* 5. *f.* 8. *Salict. Wob. p.* 277.—*β. balsamifera;* foliis rigidioribus subtus magis glaucis.—S. balsamifera. *Barratt, mst.*—S. cordata. *Rich. App. p.* 37. —*γ. Mackenzieana;* foliis obovato-lanceolatis.—S. Mackenzieana. *Barratt, mst.*

Hab. Moist woods and prairies of the Saskatchawan. *Drummond.*—*β.* Lake Winipeg and the Saskatchawan. *Dr Richardson.*—*γ.* Great Slave Lake and the Mackenzie River. *Dr Richardson.*—So variable are the leaves of this plant in point of size, shape, and texture, that all kinds may be seen between lanceolate and almost exactly cordate. It is only fair to observe, that Dr Barratt is disposed to consider the *β.* and *γ.* good species; but I really do not possess sufficient materials to give satisfactory characters. The branches vary from bright yellow to deep brown.—Another state probably of this plant is found by Mr Douglas on the Columbia River with quite entire leaves.

22. *S. rigida* (Willd.); "foliis oblongo-lanceolatis acuminatis basi subcordatis rigidis glabris argute serratis, serratura infima elongata, petiolis villosis, stipulis amplis cordatis

obtusis glanduloso-serratis, amentis coœtaneis subtriandris, squamis lanceolatis atris lanatis, germinibus longe pedicellatis lanceolatis glabris, stylo brevissimo, stigmatibus bipartitis." *Ph. Am.* 2. *p.* 615. *Muhl. in Ann. of Bot.* 2. *t.* 5. *f.* 4. *Salict. Wob. p.* 277.—S. cordata. *Mx. Am.* 2. *p.* 225.—β. incana. *Barratt, mst.*—γ. longifolia. *Barratt, mst.*

Hab. Between Fort Franklin and Cumberland House. *Dr Richardson.*—This again comes very near the *S. cordata;* but Dr Barratt refers the specimens without hesitation to *S. rigida,* W. and Ph.

23. *S. prinoides* (Ph.); "foliis ovali-oblongis acutis remote undulato-serratis glabris subtus glaucis, stipulis semicordatis inciso-dentatis, amentis præcocibus (?) villosis, germinibus pedicellatis ovatis acuminatis sericeis, stylo longo, stigmatibus bifidis." *Ph. Am.* 2. *p.* 613. *Salict. Wob. p.* 79. *t.* 40.

Hab. Silery, near Quebec. *Mrs Sheppard.* New Brunswick. *Mr Kendal.*—These specimens, which are barren, exactly correspond with what is named *S. prinoides,* from the United States; but they are also equally the same with what is named, in my Herbarium, *S. cordata,* by Mr Borrer, from Mr Anderson's garden.

§ 7. Arbusculæ. *Fructices parvæ regiones arcticas v. alpinas habitantes. Amenta cœtanea. Barratt, mst.*

24. *S. planifolia* (Ph.); "erectiuscula divaricata, ramulis lævigatis, foliis oblongo-lanceolatis utrinque acutis medio serrulatis glaberrimis patentibus planis discoloribus, stipulis nullis." *Ph. Am.* 2. *p.* 611.—β. foliis unicoloribus.

Hab. Labrador. *Ph. Miss Brenton.* Mackenzie River and Bear Lake. *Dr Richardson.* Swamps at Lac la Pierre. *Drummond.*—If this be the true *S. planifolia,* as Dr Barratt suspects, it is a low growing shrub, with obovato-lanceolate, entire leaves, very glaucous beneath, especially the younger ones, downy, as well as the young branches. The ovary is ovato-acuminate, sessile, and very shortly stipitate. Style short; lobes of the stigma bifid. Pursh was unacquainted with the flowers, and there must still be great doubt about the species.—β. though not marked as a var. by Dr Barratt, has the leaves of the same colour on both sides, and decidedly serrated.

25. *S. acutifolia* (Willd. *Sp. Pl.* 4. *p.* 669); foliis lanceolatis utrinque acutis subcoriaceis glaberrimis subtus glaucis serratis, amentis coœtaneis erectis cylindricis densifloris, squamis oblongis pilosis, ovariis sessilibus ovato-acuminatis sericeis, stylo brevi, stigmatis lobis bipartitis.

Hab. Saskatchawan to Fort Franklin on the Mackenzie River. *Drummond. Dr Richardson.*—Mr Borrer considers this to be the same as true *S. acutifolia* of Willdenow, from the Caspian Sea. Bark sometimes pale, sometimes deep brown, not "pruinose" in the dried specimens.

26. *S. pedicellaris* (Ph.); "ramis lævigatis, foliis obovato-lanceolatis acutis integerrimis utrinque glabris concoloribus, stipulis nullis, amentis coœtaneis pedunculatis glaberrimis, squamis oblongis pedicello duplo brevioribus vix pilosis, germinibus ovato-oblongis longissime pedicellatis glabris, stigmatibus sessilibus bifidis." *Ph. Am.* 2. *p.* 611.

Hab. Saskatchawan to Fort Franklin on the Mackenzie River. *Dr Richardson. Drummond.*—This plant is referred by Mr Borrer to *S. pedicellaris* of Pursh, with whose description it seems to agree, except that the leaves are more obtuse.

27. *S. depressa. Hoffm.*

Hab. Labrador. *Dr Morrison.* Fort Vancouver on the Columbia. *Dr Scouler.*—Specimens from these localities are so named by Dr Barratt; but they are, it must be confessed, in a very imperfect state, of which a description would probably tend to mislead.

28. *S. fusca. L.—Sm. Engl. Bot. t.* 1960. *Salict. Wob. p.* 165. *t.* 83.—S. repens. *E. Bot.* 133. *Salict. Wob. p.* 167. *t.* 84. *Ph. Am.* 2. *p.* 610.

Hab. Fort Franklin on the Mackenzie River. *Dr Richardson.*—Specimens with male catkins only.

29. *S. Myrsinites* (*L.*); humilis, foliis ellipticis undulatis serratis nitidis glabris v. hirsutiusculis venis prominentibus, amentis brevibus laxis, ovariis sessilibus lanceolatis laxe sericeis stylo duplo longioribus, stigmatibus bifidis. *Sm. E. Bot. t.* 1360. *Salict. Wob. p.* 119. *t.* 60. *Rich. App. p.* 37. *Ph. Am.* 2. *p.* 617.

Hab. Swamps and woods among the Rocky Mountains; and in the barren country north of lat. 64°, to Fort Franklin. *Dr Richardson.*

30. *S. desertorum* (Rich); foliis ellipticis obovato-lanceolatisve deciduo-villosis venosis subtus glaucis, amentis oblongis erectis densifloris, floribus erectis, squamis ovalibus fuscis longe lanato-villosis ovarii ovati dense lanati fere longitudine, stylo brevi, stigmatis lobis bifidis. *Rich. App. p.* 37.

Hab. From the Saskatchawan (*Drummond*) to Fort Franklin. *Dr Richardson.*—A very elegant species, with copious catkins. Yet there are some varieties, as it appears, which have a very different aspect, with much larger, more woolly leaves, and longer and looser catkins.

31. *S. Stuartiana* (Sm.); ramis strictis brevibus, foliis lanceolatis utrinque acutis integerrimis subtus præcipue sericeo-villosis demum adultis nudiusculis, amentis coœtaneis subelongatis pedunculatis, squamis brevibus fuscis sericeo-villosis, ovariis lanceolatis subsessilibus sericeo-lanatis, stylo brevi, stigmatis lobis fissis. *E. Bot. t.* 2586. *Salict. Wob. p.* 143. *t.* 72.—S. arenaria. *Hook. et Arn. in Bot. of Beech. p.* 125.—β. amentis laxioribus, floribus fœmineis magis remotis.

Hab. Kotzebue's Sound. *Beechey.*—β. Mackenzie River. *Dr Richardson.*—If the *S. Stuartiana* be really distinct from *S. arenaria*, this must be referred to the former species, from which it seems to differ only in the more lax nature of the catkins.

32. *S. Lapponum? L.—Hook. et Arn. in Bot. of Beech. p.* 129.

Hab. Kotzebue's Sound. *Beechey.*—Specimens very imperfect.

§ 8. Prostratæ. *Frutices humiles, regiones arcticas vel alpinas habitantes, subrepentes vel prostratæ. Amenta coœtanea pedunculata. Barratt, mst.*

33. *S. reticulata* (L.); foliis sublonge petiolatis orbiculari-ellipticis obovatisve serratis adultis glabris reticulatis supra rugosis subtus glaucis, amentis pedunculatis cylindraceis multifloris, squamis latis retusis purpureo-fuscis glabris aveniis ovario sericeo-tomentoso sessili duplo brevioribus, stigmatis lobis sessilibus bifidis. *E. Bot. t.* 1908. *Ph. Am.* 2. *p.* 610. *Salict. Wob. p.* 133. *t.* 67. *Cham. in Linnæa.* 6. *p.* 542.

Hab. Fort Franklin to the Arctic Shores and Islands. *Dr Richardson. Sir E. Parry*, &c. York Factory, Hudson's Bay. *Drummond.* Labrador. *Dr Morrison.* Unalaschka. *Chamisso.*

34. *S. nivalis;* nana repens, foliis parvis brevi-petiolatis lato-ellipticis-obovatisve integerrimis glabris reticulatis supra lævibus subtus glaucis, amentis pedunculatis subquinquefloris, squamis obovatis retusis pallide viridi-fuscis venosis ovarii sessilis sericeo-tomentosi fere longitudine, stylo brevi, stigmatis lobis bipartitis.

Hab. Near the summits of the peaks in the Rocky Mountains.—A small plant, intermediate, as it were, between *S. reticulata* and *S. herbacea*, yet very distinct from both, especially in the very few-flowered amenta, the larger, paler coloured, and veined scale, and the evident, though short, style. Leaves small, quite entire.

35. *S. vestita* (Ph.); foliis brevi-petiolatis obovatis obtusis vel lato-ellipticis serratis reticulatis supra adultis glabris rugosis subtus pilis longis deciduis pulcherrime sericeis, amentis pedunculatis elongato-cylindraceis compactis multifloris, squamis brevibus pallidis late ovatis retusis ovariisque lato-lanceolatis sericeo-tomentosis, stylo nullo, stigmatis lobis bifidis. *Ph. Am.* 2. *p.* 610.—*β. nana;* glabra, foliis multo minoribus amentis pauci-(6-8)-floris.

Hab. Labrador. *Kohlmeister. Dr Morrison.*—*α.* and *β.* on the more elevated of the Rocky Mountains (*Drummond*), where it varies from a few inches to 3-4 feet in height, and in the length of the leaves from a ½ to 2 inches. These leaves are generally beautifully silky beneath.

36. *S. cordifolia* (Ph.); foliis lato-ovalibus obovatisve basi acutis v. cordatis obtusis integerrimis junioribus subsericeis adultis petiolatis glabris leniter reticulatis subtus glaucis, amentis pedunculatis cylindricis densifloris, stipulis ovali-oblongis fuscis brevibus ovariisque ovatis acuminatis dense sericeo-villosis, stylo elongato, stigmatis lobis elongatis bifidis. *Ph. Am.* 1. *p.* 611. *Salict. Wob. p.* 277.—S. obovata? *Ph. Am.* 2. *p.* 611.

Hab. Labrador. *Kohlmeister. Dr Morrison.* High parts of the Rocky Mountains. *Drummond.*—The plant thus named for me by Mr Borrer, who is probably acquainted with the original plant cultivated by Mr Anderson, little deserves the appellation of *cordifolia*, its leaves being more frequently acute than retuse at the base. Many of the specimens approach very near to the following.

37. *S. arctica* (Br.); foliis obovatis obovato-lanceolatisve obtusiusculis basi acutis v. obtusis leniter reticulatis petiolatis integerrimis junioribus subsericeis adultis glabris, amentis fœmineis pedunculatis cylindraceis multifloris, squamis nigrescentibus late ovato-subrotundatis laxe sericeo-hirsutis ovarium ovatum sericeo-lanatum æquantibus, stylo elongato, stigmatis lobis elongatis bipartitis. *Br. in Bot. of Ross's Voy. ed.* 2. *v.* 2. *p.* 194 (*not Pall.*), *and in Melv. Isl. Pl. p.* cclxxii. *Rich. App. p.* 37. *Hook. et Arn. in Bot. of Beech. p.* 129.

Hab. Throughout the barren country of N. America, from lat. 64° to the shores and extreme islands of the Arctic Sea. *Captain Ross. Dr Richardson. Sir E. Parry*, &c. Kotzebue's Sound. *Beechey.* Labrador. *Miss Brenton.*—This plant has a disposition to turn almost black in drying, and the catkins have a peculiarly dingy or sooty hue, from the dark colour of the large scales and of the elongated styles and stigmas.

38. *S. Uva Ursi* (Ph.); "depressa, foliis spathulato-obovatis obtusis integerrimis,

inferne margine sparse glandúlosis glabris supra nitidis, stipulis nullis, amentis serotinis laxis, squamis oblongis ciliatis, germinibus ovatis pedicellatis glabris, stylo bipartito, stigmatibus bilobis." *Ph. Am.* 2. *p.* 610.—S. Ammanniana? *Rich. App. p.* 37.

Hab. Labrador. *Kohlmeister. Dr Morrison.* Hudson's Bay. *Dr Wright.* Woody country between lat. 54° and 64°. *Dr Richardson.*—My Labrador specimens thus referred to this plant, are too imperfect for me to venture to offer a character from them. Dr Richardson's "*S. Ammanniana?*" appears to me to be the same with this.

39. *S. retusa* (L.); humilis, foliis brevissime petiolatis obovatis v. oblongo-cuneatis obtusis retusisve integerrimis parallelo-venosis glaberrimis nitidis, amentis pedunculatis, squamis brevibus atris sericeis, ovariis ovato-conicis brevi-pedicellatis, stylo mediocri, stigmatis lobis bifidis. *Hook. et Arn. in Bot. of Beech. p.* 130.—S. serpyllifolia. *Scop.*—*Jacq. Austr. p.* 298.—S. anglorum. *Cham. in Linnæa,* 6. *p.* 540. *et in Herb. nostr.*; (*excl. syn.* S. arcticæ. *Br.*).

Hab. Kotzebue's Sound. *Beechey.* Arctic Sea-shore. *Dr Richardson* (whence, however, only one specimen was brought home).—A very distinct and beautiful species, with glossy, strongly nerved, perennial leaves, the skeleton nerves remaining in the lower parts of the stem. Ovaries and fruit very large in proportion to the size of the plant.

40. *S. herbacea* (L.); nana, foliis orbicularibus serratis glabris venosis, amentis paucifloris sessilibus, squamis parvis glabris, ovariis sessilibus lanceolatis glabris, stylo brevi, stigmatis lobis bifidis.—*E. Bot. t.* 1907. *Salict. Wob. p.* 123. *t.* 62.

Hab. N. W. Coast. *D. Nelson.* (*Ph.*) Labrador. *Dr Morrison.* Arctic Islands. *Sir E. Parry.*

41. *S. polaris* (Wahl.); nana, foliis orbicularibus subintegerrimis glabris venosis, amentis sessilibus paucifloris, squamis magnis nigricantibus villosis, ovariis sessilibus ovatis brevibus dense lanatis, stylo perbrevi, stigmatis lobis fissis. *Wahl. Lapp. p.* 261. *t.* 13. *f.* 6.—*β.*?—var. leiocarpa. *Cham. in Linnæa,* 6. *p.* 542.

Hab. Unalaschka. *Chamisso in Herb. nostr.*—Chamisso doubts if this be the true *S. polaris* of Wahlenberg, on account of the glabrous ovary. It does not seem to have been elsewhere found in Arctic America; but I have specimens gathered by Sir Edward Parry's officers in Spitzbergen.

(Many specimens of *Salix* yet remain in the British N. American Herbarium, in too imperfect a state to be determined. Chamisso quotes the *S. arctica* of Pallas (not Br.), a very dubious species it must be confessed, as a native of Unalaschka, and *S. glauca,* L. and Koch. (*S. sericea,* Vill. and Ser.), of Chamisso's Island and Cape Espenberg, in Behring's Straits. Bongard, in his "*Veget. de Sitcha,*" gives the following brief character of "*S. Sitchensis,*" *Sanson, mst.*:—"amentis fructiferis breviter pedunculatis, pedunculo subfoliato; capsulis ovato-lanceolatis tomentosis pedicellatis, pedicello nectarium 2-3-superante, stylo elongato, stigmatibus bifidis (?); foliis oblongo-obovatis obsolete crenulatis, supra pubescentibus, subtus cano-tomentosis."—A single specimen, with foliage only, which M. Bongard has kindly communicated to me, does not enable me to refer it to any previously described species).

2. POPULUS. *L.*

1. *P. balsamifera* (L.); ramis teretibus, foliis ovatis cordatisve acuminatis subæqualiter serratis glabris subtus pallidis reticulatis, amenti *masc.* squamis fimbriatis parce pilosis,

fœm. ovariis ovato-globosis stigmatis lobis maximis. *Ph. Am.* 2. *p.* 619. *Rich. App. p.* 38. *Pall. Ross.* 1. *t.* 41. *Trew, Ehret. t.* 46.—*α.* pedunculo fœm. pubescente, florum pedicellis vix perianthii glabri longitudine, foliis?—*β.* pedunculo fœm. glabro, pedicellis pistillo longioribus, foliis cordatis acuminatis basi truncatis.—*γ.* amentis ubique (etiam ovariis) pubescenti-tomentosis, floribus sessilibus, foliis exacte cordatis acuminatis.—an species distincta?

Hab. Canada. *Mrs Sheppard.* Throughout the woody country to the Great Slave Lake, and the south branch of the Mackenzie River, called *Rivière aux Liards*, from the great quantity of this tree which grows there. It constituted the greater part of the drift timber observed on the shores of the Arctic Sea. *Dr Richardson.*—*β.* Newfoundland. *Miss Brenton.*—*δ.* Banks of streams, N.W. America, attaining to a very large size, 60-140 feet high, and 9-20 feet in diameter. *Douglas.*—The trees in general, I fear, and the Poplars in particular, have not received that degree of attention that they deserve from the writers on American Botany. The leaves are very liable to vary, and it is remarkably the case with this species, as may be seen by the figures of Trew and Pallas; but they are never white on the underside, as described by Willdenow, &c. The flowers, too, are liable to vary, if I am correct in referring my two varieties to the present species. The *γ.*, from the Pacific side of America, will probably prove a distinct species; but I possess only one specimen, and that with nearly perfect fruit: the amentum is a span long, and the capsules as large as pease, all over downy, and they are quite sessile. The leaves and flowers, both of *β.* and *γ.*, are very similar in form to those of *P. monilifera*, but the toothing and under surface are considerably different. My specimens of *P. balsamifera*, from Kamtschatka, have the foliage orbicular, with scarcely any acumen.—Dr Richardson observes that the trunk of this attains a greater circumference than that of any other tree in the northern parts of America.

2. *P. candicans* (Ait.); foliis cordatis acuminatis subtus albidis subtriplinerviis, stipulis resinosis ramis teretibus. *Ait. Hort. Kew. ed.* 1. *v.* 3. *p.* 406. *Ph. Am.* 2. *p.* 618.

Hab. Canada. *Dr Hope.* (*Ait.*)—Of this species I am ignorant, and Willdenow, Pursh, and Michaux, have added nothing to the brief character given by Aiton. Indeed Michaux's figure and description, in the *N. American Sylva*, are alike unsatisfactory on the subject of the Poplars. From Dr Schweinitz I have received the following species, under the name of *P. candicans*. May they not in reality be one and the same?

3. *P. grandidentata* (Mich.); ramis teretibus, petiolis superne compressis, foliis rotundato-ovatis vix acuminatis grosse irregulariter seu angulato-dentatis basi sæpe biglandulosis glabris junioribus densissime cano-tomentosis, amentis fœmineis longis laxis, ovariis lanceolatis, stigmatis lobis linearibus. *Mx. Am.* 2. *p.* 243. *N. Am. Sylv. p.* 243. *t.* 99. *f.* 2. (good as to the fully formed leaf).

Hab. Canada. *Ph. Mrs Sheppard.* Lake Huron. *Dr Todd.* New Brunswick. *Mr Kendal.*—The foliage puts on very different appearances at different periods of its growth, the young leaves being clothed with very dense white tomentum, and margined with rather small and nearly regular teeth; as they advance in age, the down disappears, and the teeth become very large, and irregular.

4. *P. tremuloides* (Mx.); ramis teretibus, foliis parvulis suborbiculatis breviter acuminulatis serrulatis ciliatis basi sæpe biglandulosis, squamis masculinis pulcherime sericeis, ovariis lanceolatis, stigmatis lobis linearibus. *Mx. Am.* 2. *p.* 243 (1803). *N. Am. Sylv. p.* 242. *t.* 99. *f.* 1.—P. trepida. *Willd.* (1805).—*Ph. Am.* 2. *p.* 618. *Rich. App. p.* 38.

Hab. Canada (*Mx. Mrs Sheppard*), as far as lat. 64°. *Dr Richardson. Douglas.* New Brunswick.

Mr Kendal. Newfoundland. *Miss Brenton.*—The wood is remarked by the Crees to burn better in a green state than that of any other tree. In other respects it is worthless.

(The *P. lævigata*, Willd., received the name of *Canadensis*, from an idea that it was introduced into France from Canada; but that is mere conjecture, and as I have never received specimens except from the United States, I do not venture to introduce it. The *P. monilifera*, Wats. Dendrol. t. 102, is a good representation of this plant, and I strongly suspect that Michaux's plant of that name is no other. The female flowers very much resemble those of *P. balsamifera*, but the leaves are very different.)

Subord. II. Betulineæ. *Rich.*

3. BETULA. *L.*

1. *B. populifolia* (Ait.); "foliis deltoidibus longe acuminatis inæqualiter serratis glaberrimis, amentis fœm. cylindraceis, squamis lobis lateralibus oblongis, decurvo-falcatis, intermedio breviori, petiolis glabris." *Hort. Kew. ed.* 1. *v.* 3. *p.* 336. *Mich. N. Am. Sylv. p.* 91. *t.* 71. *Ph. Am.* 2. *p.* 620.

Hab. Canada. *Ph.*—My own specimens of this are all from the United States; and I confess that, except in the narrower and rather more compact female catkins, and the smaller scales (for the shape is the same in the two), I cannot see how it differs from the European *B. alba*. The leaves are the same in both.

2. *B. papyracea* (Ait. *Hort. Kew. ed.* 1. *p.* 337.); foliis subcordato-ovatis brevi-acuminatis subæqualiter serratis subtus punctatis glabris nunc ad axillas venarum hirsutis, amentis fœmineis lato-cylindraceis, squamarum lobis lateralibus oblongis decurvo-falcatis intermedio subbreviori. *Ph. Am.* 2. *p.* 621.

Hab. Canada. (*Ph.*) Lake Huron (*Dr Todd*) to lat. 65°. *Dr Richardson. Drummond. Douglas* (who observes it is rare to the west of the Rocky Mountains).—Mr Drummond's specimens have only the male catkins perfect, and no leaves. In my specimens from Dr Torrey (Massachusetts) the female catkins are pendent, and the leaves are slightly downy beneath on the nerves, and have there, in the axils of the nerves, generally a dense woolly tuft. My specimen from Atabasca, gathered by Douglas, has the female catkins erect, the leaves quite glabrous, and the young branches rough with resinous warts. In all, the leaves are dotted beneath, in consequence of copious resinous exudations.

3. *B. occidentalis;* ramis rufo-fuscis copiose resinoso-verrucosis, foliis late rhombeo-ovatis sublobatis grosse inciso-serratis sub lente appresso-hirsutulis v. nudis subtus pallidioribus epunctatis, nervis paucis remotis, amentis fœm. lato-cylindraceis, squamis lobis ovato-oblongis lateralibus decurvo-falcatis intermedio longiore.

Hab. Straits of De Fuca. *Dr Scouler.* Near springs on the west side of the Rocky Mountains. *Douglas;* and on the east side, from the mountains to Edmonton House. *Drummond.* One specimen is in the collection from the Arctic coast.* (?) *Dr Richardson.*—This Birch does not agree with any described species, and it is probably confined to the west coast, and to the immediate vicinity of the Rocky Mountains, forming a low, small brush-wood, 6-10 feet high, and never exceeding a few inches in the diameter of its trunk. Mr Drummond considered it to be the *B. nigra*, but its bark and leaves are quite different; the latter remarkable for the few and remote nerves, which spring from the mid-ribs: besides, *B. nigra* is a southern tree of great size. The main branches are erect, and somewhat virgate, clothed with a red-brown bark, a little inclining to purple, copiously sprinkled with resinous warts in all the specimens. Petioles ½ to ¾ of

* There has probably been some mistake in the station of this.

an inch long, adult leaves 2-2½ inches, broadly ovato-rhomboid, rather acute than acuminate, of a harsh and dry but not thick texture, slightly lobed at the margin, and inciso-serrate, the serratures coarse and sharp, paler beneath, but never, either in the old or younger state, dotted. Male catkins resembling those of the preceding, 1-2 inches long.

4. *B. excelsa* (Ait.); "foliis ovatis acutis serratis, strobilorum squamis lobis lateralibus rotundatis, petiolis pubescentibus pedunculo brevioribus." *Hort. Kew. ed.* 1. *v.* 3. *p.* 337. *Ph. Am.* 2. *p.* 621.—B. lutea. *Mx. N. Am. Sylv.* 2. *p.* 103. *t.* 73.

Hab. Abundant in the forests of New Brunswick and Nova Scotia. *Michaux.*—I have never been so fortunate as to receive satisfactory specimens of this plant, either from British N. America, or from the United States: from its qualities and properties, however, as related by Michaux, it would seem to be a distinct species; but the figure of this latter author, and specimens of foliage which Mr Kendal sent from New Brunswick, marked "Yellow Birch," seem to differ in no respect from the following: and Bigelow (*Fl. Bost. p.* 856) observes of *B. excelsa*, "it has considerable resemblance to *B. lenta*, but the cuticle has a yellowish colour."—It will be seen by Michaux's figure that the lateral lobes of the scales of the catkin are as in the following species.

5. *B. lenta* (L.); foliis ovatis seu oblongo-ovatis brevi-acuminatis basi oblique cordatis obtusisve argute subduplicato-serratis nervis approximatis parallelis, subtus petiolis villosulis, junioribus sericeis, amentis brevi-pedunculatis fœmineis fructiferis ellipticis, squamis glabriusculis nervosis lobis lateralibus ovato-rotundatis patentibus intermedio elongato. *Ph. Am.* 2. *p.* 621. *Mx. N. Am. Sylv.* 2. *p.* 106. *t.* 74.—B. carpinifolia. *Ehrh.*

Hab. Abundant in Nova Scotia, New Brunswick, and in Canada, where it is known by the name of the "*Cherry Birch.*" *Michaux. Mr Kendal.*—It is a pity that Ehrhart's appropriate name of *carpinifolia* cannot be preserved to this species. It is reckoned among the most beautiful and valuable of the genus. The leaves are often, but by no means universally, furnished with a tuft of wool in the axils of the veins.

6. *B. pumila* (L.); "humilis, foliis orbiculari-obovatis serratis subtus (junioribus præcipue) ramulisque pubescentibus, amentis fœmineis cylindraceis." *Willd. Sp. Pl. t.* 4. *p.* 467. *Jacq. Hort. Vind. t.* 122. (*non Dict. des Sc. Nat. cum Ic.*) *Ph. Am.* 2. *p.* 622.

Hab. Canada. (*Linn.*) Newfoundland. *Miss Brenton.* Labrador. *Dr Morrison.*—I have seen no plant corresponding exactly with the *B. pumila*, except one specimen from Newfoundland, and another, less distinctly marked, from Labrador; but these I can only consider a downy state of *B. glandulosa.* The *B. pumila* of *Dict. des Sc. Nat.* seems to be undoubtedly the European *B. fruticosa.*

7. *B. glandulosa* (Mx. *Am.* 2. *p.* 18); humilis, ramis resinoso-punctatis v. lævibus glabris, foliis obovatis seu subrotundo-obovatis obtuse serratis glabris, amentis fœmineis lato-cylindraceis breviusculis, squamis trifidis lobis oblongo-subovatis intermedio parum longiore. *Ph. Am.* 2. *p.* 621.

Hab. Canada and Hudson's Bay. *Michaux. Goldie.* Grand Saline and Mountains of Providence, and from Lake Winipeg to Fort Franklin. *Dr Richardson. Drummond.* Labrador and Newfoundland. *Miss Brenton. Dr Morrison.*—Leaves from ½ to ¾, or rarely an inch long, varying in width, and somewhat in the length of the petiole: so that some of the specimens, it must be confessed, come very near to the following. I have selected the best characters I have been able for distinguishing them.

8. *B. nana* (L.); humilis, ramis resinoso-punctatis v. lævibus glabris, foliis suborbicularibus grosse dentatis glabris, amentis fœmineis brevibus cylindraceis, squamis profunde

trifidis lobis oblongo-subobovatis subæqualibus. *E. Bot. t.* 349. *Ph. Am.* 2. *p.* 622.—*β. flabellifolia ;* foliis cuneato-flabelliformibus dentibus profundis acutis.

Hab. Sphagnous swamps, Hudson's Bay and Canada. *Michaux.* Labrador. *Dr Morrison. Miss Brenton.* Fort Franklin on the Mackenzie River. *Dr Richardson.* Kotzebue's Sound. *Chamisso* (*in Herb. nost.*) *Beechey.*—*β.* Newfoundland. *Mr Cormack.*—Smaller in all its parts than the preceding, and the leaves constantly more orbicular, and nearly sessile. The scales, too, of the female amentum appear to be more deeply cleft, and the segments more equal.—*β.* is a very beautiful variety, with broadly cuneate leaves, semicircular at the extremity, and, there only, deeply, regularly, and sharply toothed. From Sweden, Mr R. B. Bowman has sent me *B. nana,* with the young branches decidedly pubescent, thus bearing the same relation to the usual state of the plant, that *B. pumila* does to *B. glandulosa.*

4. ALNUS. *L.*

1. *A. glutinosa. Gærtn.—E. Bot. t.* 1508. *Ph. Am.* 2. *p.* 622.

Hab. Interior of Canada and the N. W. Coast. *Ph.*—Willdenow gives this as a native of N. America, and Pursh speaks of this as "a large tree, known every where under the name of *Alder ;*" but I have seen nothing like our *common Alder* from any part of N. America, and I presume the *A. viridis* has generally been mistaken for it.

2. *A. crispa* (Ait. *H. Kew. ed.* 1. *v.* 3. *p.* 339) ; pedunculis ramosis, foliis ovatis acutis subundulatis, venis subtus pilosis, axillis nudis, stipulis subrotundo-ovatis.—B. crispa. *Mx. Am.* 2. *p.* 181. *Ph. Am.* 2. *p.* 623.—A. undulata. *Willd.*

Hab. Newfoundland and Hudson's Bay. *Aiton.*—Of this I know nothing, unless it be, as Nuttall has suggested (*in Herb. nostr.*), a state of *A. incana.*

3. *A. viridis* (DC.) ; foliis ovatis acutis ad margines inciso-sublobatis argute inæqualiter serratis utrinque glabris v. ad venas subtus pilosiusculis et nunc in axillis venarum lanatis, amentis junioribus cylindraceis, fructiferis ovalibus. *Cham. in Linnæa,* 6. *p.* 538.—Betula ovata. *Schrank.—Willd.*—Alnus incana, glabrifolia. *Hook. et Arn. in Bot. of Beech. p.* 117 *and* 129.—A. glutinosa. *Rich. App. p.* 36. *an Ph. ?*—*β.* foliis majoribus marginibus magis inciso-lobatis.

Hab. Canada, throughout the woody and barren country, and to the Rocky Mountains. *Dr Richardson. Drummond.* Sitcha. *Bongard.* Kotzebue's Sound. *Chamisso. Beechey.*—*β.* N. W. America, from the mountains to the sea. *Douglas. Scouler. Tolmie.*—The specimens of *α.* correspond entirely with the European plant of the same name, and the exactly ovate acute leaves, finely and deeply serrated, and the longer, cylindrical, and (apparently) green, young female catkins, will readily distinguish it from *A. glutinosa.* Dr Richardson's specimens, from his first journey, have the leaves quite young ; but I think I cannot be mistaken in referring them here. The Columbia specimens have the leaves usually large, but retaining their true character.

4. *A. incana* (Willd.) ; foliis ellipticis subovatisve integris vel margine obscure lobatis obtusis vel acutiusculis argute serratis subtus pubescentibus, amentis junioribus cylindraceis, fructiferis ovalibus.—Betula incana. *L.—Pall. Ross.* 1. *p.* 64.—*β.* foliis subtus ad nervos pilosis v. etiam glaberrimis.—Betula serrulata. *Ait. Hort. Kew. ed.* 1. *p.* 338.—Alnus. *Ph.*

Hab. *α.* and *β.* throughout Canada (*Mrs Sheppard*), to the Saskatchawan and Fort Franklin. *Dr Richardson. Douglas. Drummond.* New Brunswick. *Mr Kendal.* Newfoundland. *Miss Brenton.*—The

leaves are generally larger than, and of a different shape from, the preceding. In the degree of pubescence on the under surface of the leaves, the greatest variation appears, and the most downy kind in every particular corresponds with the European *incana*, so that I have no hesitation in considering the *A. serrulata* (which indeed is sometimes quite glabrous) a var. of it.

5. *A. rubra* (Bong. *Veg. de Sitcha, p.* 44); foliis ellipticis marginibus undique obtuse lobatis lobis obtuse serrulatis subtus ad nervos præcipue puberulis siccitate subferrugineis, amentis fœm. junioribus cylindraceis, fructiferis ovatis.—A. castaneæfolia. *Dougl. Mst.*

Hab. Sitcha. *Bongard.* Dry rocky banks of the Columbia, near the Grand Rapids, common (*Douglas*), and below Fort Vancouver. *Dr Scouler.*—This is a perfectly distinct species, and well characterized by Dr Bongard, who observes that it is called "Red Alder" by the Russians inhabiting the colony at Sitcha. The margins of the leaves are so deeply and regularly lobed that they might almost be called pinnatifid, and these lobes and the serratures are singularly blunt. There is nothing peculiar in the catkins. Indeed the fructification of the different species of Alder exhibit very little variation.

Subord. III. Plataneæ. *Juss.*

5. PLATANUS. *L.*

1. *P. occidentalis. L.—Ph. Am.* 2. *p.* 635. *Mich. N. Am. Sylv. p.* 55. *t.* 63.

Hab. Canada.

Subord. IV. Cupuliferæ. *Rich.*

6. QUERCUS. *L.*

1. *Q. tinctoria. Bartr.—Ph. Am.* 2. *p.* 629. *Mich. N. Am. Sylv.* 1. *p.* 110. *t.* 24.

Hab. Canada. *Dr Beck.*

2. *Q. rubra* (L.); foliis longe petiolatis circumscriptione latissime ovalibus profunde sinuatis lobis integris vel subincisis setaceo-acuminatis glabris, fructibus sessilibus, cupula brevissima scutelliformi squamis parvis ovatis pubescentibus, glande late ovata acute umbonata. *Ph. Am.* 2. *p.* 630. *Mich. N. Am. Sylv.* 1. *p.* 125. *t.* 28.

Hab. Canada, from Lake Huron (*Dr Todd*), to the Saskatchawan and rocks at Lake Namakeen. *Dr Richardson.*

3. *Q. Bannisteri. Mx.—Ph. Am.* 2. *p.* 631. *Mich. N. Am. Sylv.* 1. *p.* 99. *t.* 21.

Hab. Canada. *Dr Beck.*

4. *Q. obtusiloba. Mich.—Ph. Am.* 2. *p.* 632. *Mich. N. Am. Sylv. p.* 37. *t.* 5.

Hab. Canada. *Dr Beck.*

5. *Q. alba* (L.); foliis obovato-oblongis basi attenuatis pinnatifidis junioribus utrinque cano-pubescentibus adultioribus subtus pubescentibus v. glabris lobis lato-oblongis obtussissimis v. retusis nonumquam subcuneatis petiolis brevibus, fructibus pedunculatis, cupula hemisphærica dense squamosa squamis ovatis pubescentibus, glande ovatæ obtusa cum umbone. *Ph. Am.* 2. *p.* 633. *Mich. N. Am. Sylv.* 1. *p.* 11. *t.* 1.

Hab. Canada, to Lake Winipeg (which Mr Douglas considers its northern limit, and where it attains only a height of 10-20 feet). *Dr Richardson. Douglas.*

6. *Q. Garryana* (Dougl. mst.); foliis latissime obovatis utrinque obtusis sinuato-pinnatifidis siccitate nigricantibus supra glabris subtus petiolis ramisque dense fusco-pubescentibus lobis latis obtusissimis, fructibus sessilibus, cupula perbrevi-hemisphærica dense squamosa squamis ovato-acuminatis pubescentibus, glande ovata obtuse cum umbone conico.

Hab. N. W. America. *Menzies* (*in Herb. nostr.*) Plentiful on the plains near Fort Vancouver, on the Multnomak, and at Puget Sound. *Douglas. Dr Gairdner. Tolmie.*—Forty to eighty feet high, 3-5 in diameter: the wood good, and well adapted for ship-building. This Oak, which I believe to be a very distinct species, has not only the underside of the adult leaves, but the petioles and branches, clothed with a dense dingy-coloured down. The leaves, too, are much broader than in *Q. alba*, the acorns are sessile, and the cups much shallower. There is an Oak in Mr Drummond's third collection of Texas plants (No. 342), named "Yellow Post Oak," distinguished by the downy leaves and the size of the acorns, in which the leaves and sessile acorns agree with those of the present species very closely; but the branches are glabrous, and the cups are much deeper, and clothed with larger and more hoary scales.—Mr Menzies also detected *Q. Garryana* in California, where Mr Douglas, besides the *Q. agrifolia*, Neè, gathered also a third species, with leaves somewhat like the present, but narrower, and with narrower lobes, nearly glabrous beneath, and much smaller acorns. These three are, as far as I know, the only Oaks yet discovered in N. W. America.

7. CASTANEA. *L.*

1. *C. chrysophylla* (Dougl. mst.); foliis sempervirentibus lato-lanceolatis acuminatis coriaceis integerrimis glabris subtus aureo-farinosis.

Hab. Common on the Grand Rapids of the Columbia, to Cape Orford, and near Mount Hood; constantly inhabiting the hills.—This is a most splendid evergreen tree, varying in height from 20 to 70 feet, with leaves 4-5 inches long, full green above, below of a rich golden yellow. These leaves are quite entire. The spikes or catkins of flowers scarcely exceed an inch in length, including the peduncle, and they are solitary in the axils of the upper leaves; sometimes all the flowers on a catkin are male; sometimes the two or three lower flowers are female. Fruits 2-3, crowded, densely clothed with acicular prickles.

8. FAGUS. *L.*

1. *F. ferruginea* (Ait.); monœcia, foliis oblongo-ovatis acuminatis remote dentato-serratis basi acutis v. obtusis, fructus aculeis ferrugineo-tomentosis reflexis. ***Ph. Am. 2. p. 624. Mich. N. Am. Sylv. 3. p. 21. t. 106.***

Hab. Canada, New Brunswick, and Newfoundland.—This is the "*Red Beech,*" of the inhabitants, and I, like Dr Torrey, have only seen this one species from any part of N. America; but Michaux, and American authors, describe another species as also inhabiting Canada, namely—

2. *F. sylvestris* (Mich.); "foliis acuminatis obsolete dentatis margine ciliatis." *Mich. N. Am. Sylv. p. 18. t. 107.*—F. sylvatica. *Ph. Am. 2. p. 625 (not Linn.).*—F. sylvatica. *β. Nutt. Gen. Am. 2. p. 216.*

Hab. Canada. *Michaux,* who calls this the "*White Beech,*" from the difference of the colour of the wood in the two kinds; but neither in Michaux's figure, nor in the description of authors, does their appear any marks by which this can be separated botanically from the preceding. In both, the leaves vary somewhat in shape, but are at all times much larger and longer and more toothed than in the European Beech, which has, moreover, the prickles of the fruit straight, and not clothed with ferruginous down.

9. CARPINUS. *L.*

1. *C. Americana. Willd.—Ph. Am.* 2. *p.* 623.—*Mich. N. Am. Sylv.* 3. *p.* 28. *t.* 108.

Hab. Canada.

10. OSTRYA. *Micheli.*

1. *O. Virginica. Willd.—Ph. Am.* 2. *p.* 623.—Carpinus Ostrya. *Mich. N. Am. Sylv. p.* 31. *t.* 109.

Hab. Canada, to Lake Winipeg. *Dr Richardson.* New Brunswick and Nova Scotia. *Michaux.*

11. CORYLUS. *L.*

1. *C. Americana* (Wahl.); foliis subrotundo-cordatis acuminatis, involucris nuce globosa multo majoribus limbo maximo dilatato foliaceo grosse dentato. *Ph. Am.* 2. *p.* 634.—*β.* amentorum (utriusque sexus) squamis densissime sericeo-villosis.

Hab. Canada.—*β.* N. W. Coast. *Menzies. Douglas. Scouler.*—Readily distinguished by the remarkably large leafy limb to the involucre of the fruit. Of the var. *β.* I have seen no fruit. It may probably constitute a new species.

2. *C. rostrata* (Ait.); foliis cordato-ovalibus acuminatis, involucris inferne sericeo-hispidis nuce globosa multo majoribus in tubum longissimum angustum apice incisum desinentibus. *Ph. Am.* 2. *p.* 635.

Hab. Canada, to the Saskatchawan. *Dr Richardson.*

Ord. XCII. MYRICEÆ. *Rich.*

1. MYRICA. *L.*

1. *M. Gale. L.—E. Bot. t.* 562. *Ph. Am.* 2. *p.* 620.

Hab. Throughout Canada, and to Fort Norman on the Mackenzie River. *Dr Richardson.* New Brunswick. *Mr Kendal.* Labrador and Newfoundland. *Miss Brenton. Dr Morrison.*—The young buds, Dr Richardson says, are used by the Indians to dye their porcupine's quills.

2. *M. Californica* (*Cham. in Linnæa,* 6. *p.* 535, *et in Herb. nostr.*); ramis angulatis, foliis anguste lanceolatis acutis basi in petiolum brevem attenuatis adultis præsertim serratis glabrescentibus coriaceis punctis minutis resinosis adspersis margine reflexo obsolete nervosis, amentis axillaribus solitariis, fructibus tuberculatis nudis.—M. Xalappensis. *H. and K.?*

Hab. N. W. Coast. *Menzies.* Swamps of Puget Sound. *Douglas.*—I do not think this differs as a species from *M. Xalappensis.* Our specimens of what we consider that plant, gathered in Mexico, are quite the same as Chamisso's, so that this species has a very extensive range.

2. COMPTONIA. *Gærtn.*

1. *C. asplenifolia. Ait.—Ph. Am.* 2. *p.* 635.—Liquidambar aspl. *L.*

Hab. New Brunswick and Canada, to the Saskatchawan. *Dr Richardson. Drummond.*

Ord. XCIII. CONIFERÆ. *Juss.*

1. PINUS. *L.*

1. *P. Banksiana* (Lamb.* *Pin. t.* 3); foliis geminis uncialibus rigidis curvatis linearibus acutis dorso tereti supra canaliculatis marginibus (sub lente) scabris, strobilis subbiuncialibus ovato-acuminatis recurvis ramo adpressis plerumque binis, squamis obtusis lævibus dorso superne gibboso. *Ph. Am.* 2. *p.* 642.—P. rupestris. *Mich. N. Am. Sylv.* 3. *p.* 117. *t.* 136.

Hab. Dry sandy soils, Canada, to lat. 64°, and even beyond that, on the sandy banks of the Mackenzie River. *Dr Richardson.*

2. *P. inops* (Sol. *in Ait. Hort. Kew. ed.* 1. *v.* 3. *p.* 367); foliis geminis breviusculis (biuncialibus) obtusiusculis rigidis supra canaliculatis subtus teretibus marginibus serrulatis, strobilis recurvis ovato-oblongis longitudine foliorum, vaginis brevibus, squamis compactis obtusis infra apicem aculeo subulato patente instructis. *Lamb. Pin. t.* 12. *Mich. N. Am. Sylv.* 3. *p.* 129. *t.* 139. *Ph. Am.* 2. *p.* 641. *Bong. Veget. de Sitcha, p.* 45. —P. distorta. *Dougl. mst.*—β. foliis minus rigidis.

Hab. Sitcha. *Bongard (in Herb. nostr.).* Shores of the Pacific, from the confluence of the Columbia northwards. Observatory Inlet. *Dr Scouler.*—β. growing close to the snow on Mount Rainier. *Tolmie.*—This forms a "low scrubby" Pine in N. W. America; on Mount Rainier, near the snow, not exceeding 10 feet in height. The specimens exactly agree with the same species from the United States.

3. *P. resinosa* (Sol. *in Hort. Kew. ed.* 1. *p.* 367); foliis geminis elongatis (4-5 uncialibus) acutis supra leniter canaliculatis dorso teretibus marginibus asperis, vaginis elongatis, strobilis ovato-conicis basi rotundatis subsolitariis subbiuncialibus, squamis superne conico-convexis. *Lamb. Pin. t.* 13. *Ph. Am.* 2. *p.* 642.—P. rubra. *Mich. N. Am. Sylv.* 3. *p.* 112. *t.* 134.

Hab. Canada.—N. W. America, along with *P. Lambertiana. Douglas.*

4. *P. Strobus* (L.); foliis quinis gracilibus subtriuncialibus acute triquetris margine superne scabriusculis supra glaucis, vaginis nullis, strobilis folio longioribus subcylindraceis lævigatis curvato-pendulis, squamis laxis magnis latissimis planis. *Lamb. Pin. t.* 32. *Ph. Am.* 2. *p.* 644. *Mich. N. Am. Sylv.* 3. *p.* 159. *t.* 145.—P. monticola. *Dougl. mst.*—*Lamb. Pin. descr. sine Ic.*

Hab. Nova Scotia and Canada, to the Saskatchawan and east side of the Rocky Mountains. *Drummond:* and on the west side, from the source of the Columbia to the alpine range of Mount Hood. *Douglas.*—This is the well-known "*Weymouth Pine*" of our plantations. I cannot perceive the slightest difference in the *P. monticola* of Mr Douglas and the present. The cones and foliage are exactly similar.

5. *P. Lambertiana* (Dougl. mst.); foliis quinis subelongatis 4-5 uncialibus rigidiusculis acutis acute triquetris unicoloribus margine subasperis, vaginis nullis, strobilis maximis (pedalibus et ultra) oblongis, squamis laxis latissimis planis.—*Lamb. Pin. t.* 34.—β.? foliis brevioribus.

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* I quote from the imperial 8vo edition, published by Messrs Weddel in 1832; the only edition, save the first, that I have the opportunity of consulting.

Hab. From N. lat. 43°, in N. W. America, to California. First seen at the head-waters of the Multnomak in 1825. *Douglas.*—β. "Height of Land" in the Rocky Mountains. *Drummond.*—The giant of the N. W. American forests, being sometimes 215 feet in height, 57 feet 9 inches, in circumference, at 3 feet from the ground, and 17 feet 5 inches, in circumference, at 34 feet from the ground; whilst the cones are from 12 to 16 inches in length, and 11 inches in circumference in the thickest part!—A Pine in many respects similar to this was found by Mr Drummond in very elevated situations of the Rocky Mountains, near the "*Height of Land,*" yet there growing 50 and 60 feet high. The leaves are, however, shorter (2 or 3 inches) and more rigid, and the specimens have the closest affinity with those of the European *P. Cembra.* **No cones of it exist in the collection.**

6. *P. Sabiniana* (Dougl. mst.); ramulis squarrosis, foliis ternis prælongis pedalibus acutis unicoloribus dorso tereti supra linea acuta elevata margine scabris, vaginis in adultis brevibus, strobilis subrotundo-ovatis maximis, squamis patentibus laxis latissimis apicibus longe acuminatis incurvis spinescentibus. *Lamb. Pin. t.* 80.

Hab. N. W. America; inhabits moist vegetable deposits of New Albion, at a great elevation above the sea. *Douglas.* Fallatine hills. *Dr Gairdner.*—A tree from 40-120 feet in height, and 2-12 feet in circumference. Cones 9-11 inches long, and 5 to 6 inches in diameter.

7. *P.* (*Abies?*) *Menziesii* (Lamb. *Pin. descr. sine Ic.*); foliis acutis planis subtus argenteis undique versis, strobilis cylindraceis, squamis scariosis margine erosis."

Hab. N. W. America. *Menzies* (*in Herb. Lamb.*).

8. *P.* (*Abies*) *nobilis* (Dougl. mst.); foliis (uncialibus) linearibus falcatis supra linea media exarata subtus pallidioribus linea media elevata, strobilis erectis ovato-cylindraceis (6-7 uncialibus, 3-unc. lat.), squamis compactis latissimis, bracteolis lato-spathulatis arcte imbricato-deflexis squamas tegentibus apice erosis cum acumine subulato rigido. *Lamb. Pin. descr. cum Ic.*

Hab. N. W. America. *Douglas.* Brought to Fort Vancouver by the Indians, under the name of *Tuck-tuck,* from the Great Falls of the Columbia. *Dr Gairdner.*—A beautiful and handsome Spruce, with singularly fine cones, of which the scales are entirely concealed by the large reflexed and imbricated bracteoles each tipped with a spine about three lines long. These cones resemble in many respects those of *P. Picea,* but are much broader, and have much larger and more reflected bracteoles.

9. *P.* (*Abies*) *Douglasii* (Sabine, mst.); foliis anguste linearibus (uncialibus) obtusis supra linea media exarata subtus albidis linea media elevata marginibus reflexis, strobilis erectis ovatis (triuncialibus), squamis paucis laxis latissimis, bracteolis obovato-lanceolatis squamam superantibus 3-fidis, lacinia media spiniformi lateralibus membranaceis erosis longiori. (Tab. CLXXXIII.)

Hab. N. W. America, a common timber. *Douglas. Dr Gairdner.*—The cones of this are very unlike those of any other species, scarcely three inches long, composed of few (about 30) large broad lax scales, and each subtended by a bracteole longer than the scale, deeply trifid at the apex, the two lateral laciniæ acuminated and toothed or crose on their outer edge, the middle longer than these, and constituting a straight rigid spine, about a quarter of an inch long. Mr Douglas observes, that the principal part of the gloomy forests of N. W. America, in the vallies of the Rocky Mountains, and throughout the interior skirting those

mountains, is composed of this species. It attains a height of from 150 to 200 feet, and a circumference of from 20 to 50 feet.

Tab. CLXXXIII. *Fig.* 1, Male catkins; *f.* 2, Cone:—*nat. size*; *f.* 3, Leaves:—*magnified.*

10. *P.* (*Abies*) *Balsamea* (L.); foliis linearibus (uncialibus) obtusis supra linea media exarata subtus albidis linea media elevata marginibus reflexis, strobilis erectis cylindraceis (4-5-uncialibus) resinifluis, squamis latissimis compactis, bracteolis obovatis dentatis obtusis squamam fere æquantibus. *Lamb. Pin. t.* 41. *Ph. Am.* 2. *p.* 639.—Abies balsamifera. *Mich. N. Am. Sylv. p.* 191. *t.* 150.

Hab. Canada and Nova Scotia, to the Saskatchawan. *Dr Richardson.*

11. *P.* (*Abies*) *grandis* (Dougl. mst.); foliis (uncialibus) linearibus obtusis supra linea media exarata subtus albidis linea media elevata marginibus reflexis, strobilis erectis ovali-cylindraceis (6-uncialibus, 2-3-uncias lat.) resinifluis, squamis compactis latissimis, bracteolis ovatis brevi-acuminatis cuspidatis marginibus erosis squama multo brevioribus. ***Lamb. Pin. App. descr. sine Ic.***

Hab. N. W. America. *Douglas.*—The cone of this, Mr Lambert remarks, resembles that of *P. Cedrus*, but I think much more that of the preceding, *P. Balsamea*, and *P. Webbiana*, and it is in like manner densely coated with a resinous substance.

12. *P.* (*Abies*) *lasiocarpa;* foliis linearibus obtusis (uncialibus et fere sesquiuncialibus) unicoloribus supra linea media exarata subtus linea media elevata marginibus paululum incrassatis, strobilis . . . . . ?, squamis latis subrotundatis extus dense fusco-pubescentibus, bracteolis late obovatis vix denticulatis squama subduplo brevioribus apice mucronato-acuminatis.

Hab. Interior of N. W. America (last journey). *Douglas.*—There are no entire cones accompanying the solitary specimen of this plant; but the scales and bracteoles, lying with the leaves, are considerably different from any other species with which I am acquainted. The former are clothed with a dense almost ferruginous down. The leaves, too, are longer than in any other American species.

13. *P.* (*Abies*) *alba* (Soland. *in Hort. Kew. ed.* 1. *v.* 3. *p.* 371); foliis curvatis brevibus tetragonis (vix uncialibus) strobilis (3-uncialibus) pendulis oblongis subattenuatis obtusis, squamis late obovatis tenuibus integerrimis. *Lamb. Pin. t.* 36. *Ph. Am.* 2. *p.* 641. *Rich. App. p.* 36.—Abies alba. *Mich. N. Am. Sylv.* 3. *p.* 128. *t.* 148.

Hab. Throughout Nova Scotia and Canada, to within twenty miles of the Arctic Sea, and on the Coppermine River; in lat. 67½° it attains a height of twenty feet and more. *Dr Richardson.*—This is the most northern tree met with by Dr Richardson in his Arctic journeys. See an interesting notice of the uses of this tree among the Crees and Esquimaux, in Richardson App. above quoted. Young cones pale green; old ones pale brown.

14. *P.* (*Abies*) *nigra* (Ait. *Hort. Kew. ed.* 1. *v.* 3. *p.* 370); foliis rectis brevibus tetragonis (semiuncialibus), strobilis pendulis ovatis obtusis (uncialibus v. paulo ultra), squamis crassis lignosis obovato-ellipticis laxiusculis apice eroso-denticulatis. *Lamb. Pin. t.* 37. *Ph. Am.* 2. *p.* 640. *Rich. App. p.* 36.—Abies nigra. *Mich. N. Am. Sylv. p.* 176. *t.* 147.

Hab. Newfoundland, Nova Scotia, and throughout Canada, to lat. 65°, where it terminates with the *Betula papyracea*. *Dr Richardson.*—It grows in swampy situations. Cones deep purple, at length in age brown.

15. *P.* (*Abies*) *rubra* (Lamb. *Pin. t.* 38); "foliis solitariis subulatis acuminatis, strobilis (pendulis) oblongis obtusis, squamis rotundatis subbilobis margine integris."—P. Americana rubra, &c. *Wangenh. Beyt.* 75. *t.* 16. *f.* 54.

Hab. Nova Scotia and Newfoundland. *Wangenh.* (*in Lamb.*).—This is a very dubious tree, according to Mr Lambert. Pursh says it is nearly related to the preceding.

16. *P.* (*Abies*) *Canadensis* (L.); ramulis pubescentibus, foliis brevibus (6 lineas longis) linearibus tenuibus obscure denticulatis subtus glaucis, strobilis parvis (vix folio longioribus), squamis paucis rotundatis integerrimis. *Lamb. Pin. t.* 45. *Ph. An.* 2. *p.* 640.—Abies Canadensis. *Mich. N. Am. Sylv.* 3. *p.* 185. *t.* 140.—β.? foliis angustioribus.—P. taxifolia. *Lamb. Pin. t.* 47.

Hab. Canada, extending to the most northern regions, according to *Pursh.* N. W. America, *Dr Scouler*, as far as Millbank Sound and Stikine. *Tolmie.*—β.? N. W. America. *Menzies.*—This well-known Hemlock Spruce is readily distinguished by its small terminal cones. My specimens from N. W. America, which are in fruit, do not seem to differ from those of Eastern America, and I am led to consider the *P. taxifolius* of Mr Lambert probably a variety of the present species.

17. *P.* (*Larix*) *pendula* (Soland. *in Ait. Hort. Kew. ed.* 1. *v.* 3. *p.* 369); foliis fasciculatis deciduis, strobilis oblongis squamarum marginibus inflexis, bracteolis panduriformibus acumine attenuato. *Lamb. Pin. t.* 49. *Ph. An.* 2. *p.* 645.

Hab. Canada. *Ph.* Newfoundland. *Miss Brenton.* N. W. America. *Douglas.*—Mr Douglas' specimen, gathered in his last journey, has neither cones nor flowers, and the leaves are longer and slenderer than any other *Larix* I have ever seen.

18. *P.* (*Larix*) *microcarpa* (Du Roi); "foliis fasciculatis deciduis, strobilis subrotundis paucifloris, squamis inflexis, bracteolis ellipticis obtuse acuminatis." *Lamb. Pin. t.* 50. *Ph. An.* 2. *p.* 645.—Larix Americana. *Mich. N. Am. Sylv.* 3. *p.* 213. *t.* 153.

Hab. Hudson's Bay. *Ph.* From York Factory to Point Lake, in lat. 65°, where it only attains a height of from 6-8 feet. *Dr Richardson.* Lake Huron. *Dr Todd.*—I should fear this can only be distinguished from the preceding by its shorter leaves and smaller cones.

I am unacquainted with the affinities of the two following species—

19. *P. Mertensiana* (Bong. *Veg. Sitcha, p.* 45); "foliis (solitariis) linearibus obtusiusculis basi in petiolum attenuatis integerrimis, squamis coni reniformibus integris."

Hab. Sitcha. *Bongard.*—Leaves 5 lines, and oblong cones 1½ inch, long.

20. *P. Sitchensis* (Bong. *Veg. Sitcha, p.* 45); "foliis (solitariis) linearibus subtetragonis acuminatis mucronatis, squamis coni oblongis obtusis tenuissime denticulatis."

Hab. Sitcha. *Bongard.*—Leaves 7-8 lines, ovate cones 1-1½ inch, long.

TAXODIUM. *Richard.*

1. *T.? sempervirens* (Lamb. *Pin. t.* 64); "foliis distichis linearibus acutis perennantibus coriaceis glabris opacis." *Lamb.*

Hab. N. W. Coast of America. *Menzies.*—This seems a very doubtful *Taxodium*, of which I have seen no specimen.

CUPRESSUS. *L.*

1. *C. thyoides* (L.); ramis patentibus tetragonis, foliis lato ovatis-acuminatis quadrifariam imbricatis dorso convexis medio tuberculatis, galbulis magnitudine pisi minoris globosis subsessilibus, squamis subumbonatis lævibus. *Mich. N. Am. Sylv.* 3. *p.* 207. *t.* 152. *Ph. Am.* 2. *p.* 646.—Thuja sphæroidalis. *Rich.*

Hab. Canada. *Mrs Sheppard.* Cumberland House Fort. *Drummond.*—There is but one specimen in Mr Drummond's collection, and that is mixed with *Juniperus Sabina*, with which the leaves have the greatest affinity, but from which the fruit at once distinguishes it.

2. *C. Nutkatensis* (Lamb. *Pin. n.* 60. *sine Ic.*); ramis suberectis tetragonis, foliis late ovatis acuminatis quadrifariam imbricatis dorso carinatis etuberculatis, galbulis magnitudine pisi majoris globosis ramos breves terminantibus, squamis umbonatis lævibus.—Thuja excelsa. *Bong. Veget. de Sitcha, p.* 46.

Hab. N. W. Coast of America. Nutka. *Menzies.* Observatory Inlet. *Dr Scouler.* Sitcha. *Bongard* (*in Herb. nostr.*).—The branches are sometimes a little compressed. Mr Bongard's plant has the fruit of a *Cupressus*, and it is altogether the same species as that here characterized. It has a near affinity with the preceding, but that has shorter and more spreading and flatter branches, and leaves with a tubercle at the back, and smaller fruit.

THUJA. *L.*

1. *T. occidentalis* (L.); ramis ramulisque ancipitibus patentibus, foliis late ovatis obtusis arcte 4-fariam imbricatis intermediis planis medio tuberculo notatis, strobilis nutantibus. *Mich. N. Am. Sylv.* 3. *p.* 226. *t.* 156. *Ph. Am.* 2. *p.* 646.

Hab. From Lake Huron, to the Saskatchawan. *Dr Richardson.*—This is the American *Arbor Vitæ.*

2. *T. gigantea* (Nutt. *Pl. of Rocky M. p.* 52); ramis ramulisque compressis erectis, foliis ovatis acutis arcte 4-fariam imbricatis intermediis convexis puncto impresso etuberculatis, strobilis arcte reflexis.—T. Menziesii. *Douglas, mst.*—T. plicata. *Lamb. Pin. n.* 61 (*in partem*).

Hab. North West America. *Menzies.* (*Herb. nostr.*) Common from the source of the Columbia to its confluence with the sea, and thence north to Nutka Sound. *Douglas. Scouler. Wyeth.* Wallamet. *Tolmie.*—A truly distinct species from the preceding, in the characters above given. Mr Lambert seems to have confounded it with a different species said to have been found by Don Luis Neè in New Spain: for his characters, probably taken from that species, do not agree with Mr Menzies' original specimens from Nutka, which he has nevertheless considered as the same. The branches are longer, slenderer, and more upright than in *T. occidentalis*, yet less flattened or ancipitate, of a deeper green colour. The leaves are always destitute of a tubercle, and the cones are much more drooping; in short, bearing the same relation with it, that *Cupressus Nuthatensis* does with *C. thyoides.* It attains a height of 60 to 170 feet, and 20 to 40 feet in the circumference of the trunk. *Douglas.*

JUNIPERUS. *L.*

1. *J. communis. L.—E. Bot. t.* 1100. *Ph. Am.* 2. *p.* 647. *Rich. App. p.* 38.- *β. nana. L.—E. Bot. Suppl. t.* 2743. (J. nana.)

Hab. Newfoundland. Lake Huron, to the barren country of the Hudson Bay Co.'s territories, and on the West Coast, as far as Sitcha. *Bongard.* Summit of Mount Rainier. *Tolmie.*—β. in the most exposed and sterile situations.

2. *J. Sabina* (L.); ramulorum tetragonorum foliis quadrifariam dense imbricatis ovatis acutis v. acuminatis concavis seu subcarinatis dorso basin versus glandula oblonga quandoque obsoleta instructis; ramorum teretium foliis plerumque acerosis squamiformibus remotis appressis v. patulis, baccis nigro-pruinosis. *Mich. Am.* 2. *p.* 246. *Nutt.*—*Ph. Am.* 2. *p.* 647.—J. Virginiana. *L.*—*Mich. N. Am. Sylv. p.* 221. *t.* 155. *Ph. Am.* 2. *p.* 647. *Nutt.*—β. *humilis;* procumbens.—J. Sabina. β. *Willd.*—*Ph.*—J. prostrata. *Pers. Rich. App. p.* 38.—J. repens. *Nutt.*?

Hab. Throughout Canada, to the Saskatchawan.—β. in poor rocky soils, especially in the north. *Dr Richardson.* In the Rocky Mountains. *Lewis.* Lake Huron. *Nuttall.*—In Eastern America Botanists have enumerated five species of Savin-leaved Juniper; *J. Sabina* (which also abounds in Europe, and in Northern Asia), *J. Virginiana, J. Bermudiana, J. Barbadensis,* and *J. prostrata;* but I must confess that among all the specimens I have received from various countries included between the 53d and 32d degrees of latitude, I can recognise only one species by any botanical characters, and that one differs in no respect from the Europæan *J. Sabina,* to which I unhesitatingly refer it. If there are other species, I have not seen them, and the descriptions of authors are so vague and unsatisfactory, that I have in vain sought for distinguishing marks in their characters and observations. The leaves certainly differ considerably in different specimens; but not more so than they frequently do on one and the same individual. Thus, Bigelow observes that (in *J. Virginiana*) "a singular variety appears in the young shoots, especially those which issue from the base of the trees: this consists in an elongation of the leaves to five or six times their usual length, while they become spreading, acerose, considerably remote from each other, and irregular in their insertion, being either opposite or ternate, so that they have been repeatedly mistaken for individuals of a different species." He adds too, that the leaves of *J. Virginiana* resemble *Savin* in their medicinal properties.—I may here observe that the *Savin-leaved Junipers* of the Old World are as unsatisfactorily characterized in books as those of the New; and equally demand a careful investigation of the Botanist. In all, upon the older branches, the leaves are elongated, acerose, and distant where the shoots have been vigorous and lengthened, short and blunt and compact, and giving a tessellated appearance, when the shoots are short and stunted.—Again, with regard to the more usual form of the American species, *J. Virginiana,* as it is generally called, (though the Linnæan character does not accord with it), we can understand, from its mode of growth, why this plant, which in some situations is a tree 40 or 45 feet high, should in others become a small prostrate shrub. Michaux remarks that "the most striking peculiarity in the vegetation of it is that the branches which are numerous and close, spring near the earth, and spread horizontally, and that the lower limbs are, during many years, as long as the body of the tree. The trunk decreases so rapidly that the largest stocks rarely afford timber for ship-building of more than 11 feet in length."—Very far north, Dr Richardson tells us that "it grows close to the ground, and sends out flabelliform branches 2 yards long, which are very ornamental in thin rocky soils."

3. *J. occidentalis;* ramis ramulisque patentibus teretibus, foliis arcte 4-fariam imbricatis subrotundo-ovatis obtusis valde convexis paulo infra medium glandula oblonga conspicua resiniflua notata.—J. excelsa. *Dougl. mst.*—*Ph. Am.* 2. *p.* 647. (*vix Bieb.*)

Hab. N. W. America. Banks of the waters in the Rocky Mountains. *Lewis* (in *Ph.*) Common on the higher parts of the Columbia, at the base of the Rocky Mountains, where it attains a height of 60-80 feet, and a diameter of from 2-3 feet. *Douglas.*—Mr Douglas' collection, in my possession, contains only two specimens of this plant, without flowers or fruit. From the locality, there can scarcely be a doubt of its being the *J.*

excelsa of Pursh ; but that it is the *J. excelsa* of Bieberstein, from Tauria, is a question ; and indeed the latter author himself says of his plant, "*diagnosis* a *J. Sabina* difficillima, quamvis specie omnino differat." From *J. Sabina* our present species may be readily known by the more spreading branches and branchlets, and by both being perfectly *terete*, by the rounder and more convex leaves, and, above all, by the large gland on every leaf, constantly exuding a transparent resin, which concretes in drops upon the foliage. There are no acerose leaves on the older branches whatever, but the old leaves form lozenge-shaped scales or tubercles, with the resinous gland still very conspicuous.

TAXUS. *L.*

1. *T. baccata. L.—E. Bot. t.* 746. *Nutt. Gen. Am. p.* 246.—β. minor. *Mich. Am.* 2. *p.* 245.—T. Canadensis. *Willd.—Ph. Am.* 2. *p.* 647. *Nutt.*

Hab. Lake Huron. *Nuttall.* Mountainous parts of N. W. America. *Douglas. Dr Scouler.*—β. Canada, to the Saskatchawan. *Dr Richardson. Drummond.* Newfoundland. *Mr Cormack. Miss Brenton.*—In the eastern parts, the Yew seems to form a low shrub; but on the Columbia, Mr Douglas assures us, it attains a size fully equal to that of Europe. As was the case with our ancestors, the Indians make their bows of its wood.

Cl. II. MONOCOTYLEDONEÆ.

Ord. I. COMMELINEÆ. *Br.*

1. TRADESCANTIA. *L.*

1. *T. Virginica. L.—Curt. Bot. Mag. t.* 105. *Ph. Am.* 1. *p.* 218.

Hab. Upper Canada? *Mrs Sheppard.*

Ord. II. ALISMACEÆ. *Br.*

1. SAGITTARIA. *L.*

1. *S. sagittifolia. L.—Ph. Am.* 2. *p.* 396.—var. 1. *vulgaris ;* foliis mediocribus sagittæformibus.—var. 2. *macrophylla ;* foliis fere pedalibus lobis lanceolatis decurvis. S. latifolia. *Ph.* S. sagittifolia. *E. Bot. t.* 84.—var. 3. *angustifolia ;* foliis elongatis angustis lobis linearibus patentibus longissimis, foliis exterioribus sæpe indivisis. S. sagittifolia, *minor ;* S. hastata; S. gracilis; and S. heterophylla. *Ph.*—var. 4. *simplex ;* foliis omnibus lineari-lanceolatis simplicibus. S. simplex; S. graminea; and S. acutifolia. *Ph.*

Hab. Ditches and pools, and throughout Canada to the Saskatchawan ; Columbia, and Walla-wallah Rivers. *Dr Gairdner. Mr Tolmie.—var.* 2. N. W. coast, where it is called by the Chenooks *Wapatoo,* and where the roots are eaten. *Dr Scouler.—var.* 3. Canada. *Mrs Sheppard. Drummond.—var.* 4. Newfoundland. *Miss Brenton.*—Nothing can be more variable than the leaves of this plant in N. America, and they are of all sizes.

2. ALISMA. *L.*

1. *A. Plantago. L.—Mich. Am.—E. Bot. t.* 837.—A. trivialis. *Ph. Am.* 1. *p.* 252.—P. parviflora. *Ph.*, and probably A. subulata. *Willd. and Ph.*

Hab. Ditches and pools, Canada, to the Saskatchawan. Columbia. *Dr Scouler.*

2. *A. natans. L.—Ph. Am.* 1. *p.* 253. *E. Bot. t.* 775.

Hab Stagnant waters of the St Lawrence. *Pursh.*

Ord. III. JUNCAGINEÆ. *Rich.*

1. SCHEUCHZERIA. *L.*

1. *S. palustris. L.—Ph. Am.* 1. *p.* 247. *E. Bot. t.* 1801.

Hab. Between Cumberland House Fort and Hudson's Bay, and upon the "Height of Land," Rocky Mountains. *Dr Richardson. Drummond.*

2. TRIGLOCHIN. *L.*

1. *T. maritimum. L.—Ph. Am.* 1. *p.* 247. *E. Bot. t.* 255. *Rich. App. p.* 11.

Hab. Cumberland House Fort on the Saskatchawan to the Rocky Mountains (probably in Salt Licks). *Drummond;* and thence to the Mackenzie River. *Dr Richardson;* and N. W. Coast. *Dr Scouler. Douglas. Tolmie.* Sitcha. *Bongard.* Labrador. *Dr Morrison.*—The specimens vary exceedingly in size, from 4-6 inches to 2 feet.

2. *T. palustre. L.—Ph. Am.* 1. *p.* 247. *E. Bot. t.* 366.

Hab. Marshes between Carlton House and Edmonton House Fort, on the Saskatchawan. *Dr Richardson. Drummond.* Labrador. *Dr Morrison.* Sitcha. *Bongard* (*in Herb. nostr.*).

Ord. IV. AROIDEÆ. *Br.* (*including* Typheæ.)

1. ACORUS. *L.*

1. *A. Calamus. L.—Ph. Am.* 1. *p.* 235. *E. Bot. t.* 356.

Hab. Canada (*Ph.*), to the Saskatchawan. *Drummond.*

2. ORONTIUM. *L.*

1. *O. aquaticum. L.—Ph. Am.* 1. *p.* 235. *Hook. Ex. Fl.* 1. *t.* 19.

Hab. Canada. *Pursh.*

3. ARUM. *L.*

1. *A. triphyllum. L.—Ph. Am.* 2. *p.* 399. *Curt. Bot. Mag. t.* 950.

Hab. Canada, frequent.—This varies in the colour and markings of the spatha.

4. CALLA. *L.*

1. *C. palustris. L.—Ph. Am.* 2. *p.* 399. *Curt. Bot. Mag. t.* 1831. *Rich. App. p.* 36.

Hab. Canada, to the Saskatchawan and Hudson's Bay. *Dr Richardson. Drummond.*

5. SYMPLOCARPUS. *Salisb.*

1. *S. fœtidus* (Nutt.); spatha profunde cucullata subsessili, spadice subgloboso incluso, foliis serotinis lato-cordatis petiolatis. *Hook. Bot. Mag. t.* 3224.—Ictodes. *Bigel.*—Pothos fœt. *Mich.—Sims, Bot. Mag. t.* 836.—Dracontium fœtidum. *L.—Ph. Am.* 2. *p.* 398.

Hab. Canada. *Pursh.*

2. *S. Kamtschaticus* (Bong. *Veget. Sitch. p.* 50); spatha elliptica concava basi longissime tubulosa, spadice cylindracea exserta longe pedunculata, foliis amplis ovatis membranaceis in petiolum attenuatis.—Dracontium. *Linn. Amæn. Acad.* 2. *p.* 362.

Hab. N. W. America. Sitcha. *Bongard.* Columbia. *Dr Scouler.* N. E. of Fort Vancouver, in overflowed woods. *Dr Gairdner.*—My specimens from Dr Scouler and Dr Gairdner are considerably injured: but they are sufficiently perfect to satisfy me that the plant is a *Symplocarpus*, and the *S. Kamtschaticus* of Bongard. The root is perennial, bearing large coarse fibres. Leaves, which are clothed at their base with large membranous sheaths, a foot to a foot and a half long, thin, membranaceous, ovate, but tapering gradually into a broad and short foot-stalk: the midrib very broad, especially at the base of the leaf. Spatha, including the long tube, nearly equal in length with the leaves: the tubular part sheathing the long peduncle of the spadix.

6. LEMNA. *L.*

1. *L. trisulca. L.—Ph. Am.* 1. *p.* 22. *E. Bot. t.* 926. *Rich. App. p.* 2.

Hab. Canada, to lat. 58°. *Dr Richardson.*

2. *L. polyrhiza. L.—Ph. Am.* 2. *p.* 22. *E. Bot. t.* 2458.

Hab. Cumberland House Fort. *Drummond.*

3. *L. minor. L.—Ph. Am.* 1. *p.* 22. *Rich. App. p.* 2.

Hab. Canada, to lat. 58°. *Dr Richardson.*

(*Lemna gibba*, which is found in the Northern United States, is probably also a native of British North America; but I have seen no specimen, nor is it recorded as such.)

7. SPARGANIUM. *L.*

1. *S. ramosum. Sm. E. Bot. t.* 744. *Ph. Am.* 1. *p.* 33.—S. erectum. *L.*

Hab. Canada. *Ph.* Cumberland House Fort. *Drummond.* (Only one specimen.)

2. *S. simplex. Sm. E. Bot. t.* 745. *Ph. Am.* 1. *p.* 34.—S. erectum. *β. L.*

Hab. Throughout Canada to Fort Franklin, abundant. *Dr Richardson. Drummond.* Newfoundland. *Miss Brenton.*

3. *S. natans. L.—Ph. Am.* 1. *p.* 34. *E. Bot. t.* 273.

Hab. Canada. *Ph.* Alpine Lakes of the Rocky Mountains, rare. *Drummond.*

8. TYPHA. *L.*

1. *T. latifolia. L.—Ph. Am.* 1. *p.* 34. *E. Bot. t.* 1455. *Rich. App. p.* 34.

Hab. Throughout Canada to Fort Franklin. *Dr Richardson.* N. W. Coast, Straits of de Fuca. *Dr Scouler.*—I have not seen the *T. angustifolia*, L., from British N. America, but it seems not uncommon in the United States.

Ord. V. SAURUREÆ. *Richard.*

1. SAURURUS. *L.*

1. *S. cernuus. L.—Ph. Am.* 1. *p.* 252.

Hab. Canada. *Ph.;* but I have seen no specimen.

Ord. VI. NAIADES. *Juss.*

1. NAIAS. *L.*

1. *N. Canadensis* (Mich. *Am.* 2. *p.* 220); parva repetitim dichotome ramosa cæspitosa, foliis fasciculatis oppositis membranaceis linearibus uninerviis subintegerrimis, stylo apice bi-trifido. (Tab. CLXXXIV.)—*Ph. Am.* 2. *p.* 602.

Hab. Canada (in Lake St John's. *Michaux*). *Mr Cleghorn.*—A densely tufted plant, readily distinguished from the European species of the same genus, by the nearly entire leaves and the often bifid style. My specimens are female only. It is singular that this plant does not appear to be found by any of the United States botanists. I do not know what the *Caulinia fragilis* and *flexilis* of the American Floras are, unless the latter be, as I suspect, the *n.* 436 of Drummond, 3d Coll. of Texas plants; but our plant does not correspond with that.

Tab. CLXXXIV. *Fig.* 1, Portion of a female plant; *f.* 2, Leaf; *f.* 3, Female flower; *f.* 4, Fruit; *f.* 5, The same laid open, showing the seed:—*magnified.*

(*Zostera* is a native of the United States, but I am not aware that it has been gathered in the British possessions, though there is every reason to suspect its existence there; and probably that of the *Caulinias* too, especially in Upper Canada.)

2. ZANNICHELLIA. *L.*

1. *Z. palustris. L.—Ph. Am.* 1. *p.* 4. *E. Bot. t.* 1844.

Hab. N. W. America. Columbia River. *Dr Scouler.*

3. RUPPIA. *L.*

1. *R. maritima. L.—Ph. Am.* 1. *p.* 121. *E. Bot. t.* 136.

Hab. N. W. America. In still bays of the Columbia. *Douglas. Dr Scouler.*

4. HETEROSTYLUS. *Nov. Gen.*

Dioicus? Masc. —?—Fœm. *Spadix* e spatha (foliorum basi) erumpens, exserta, floribus nudis undique insertis sessilibus; *superioribus* arctis, subimbricatis stylo brevi; *inferioribus* sensim magis remotis stylo longiori; *infimo* radicali stylo filiformi longissimo! *Stigma* simplex capitatum. *Germen* lanceolatum compressum bialatum, dorso carinatum. Fructus: *Achenium* oblongum compressum, utrinque subalatum; infimum superne bidentatum.—Herba *annua? aquatica, maritima? vel salsuginosa, oræ occidentalis Americæ borealis.* Radix *fibrosa fibris simplicibus.* Folia *radicalia graminea membranacea, tenera, striata, linearia,* 6-8-*uncias longa, basi vaginantia, spathacea.*

1. *H. gramineus.* (Tab. CLXXXV.)

Hab. Wet plains of the Columbia. *Dr Scouler.*—This is an extremely curious plant, and certainly the type of a new genus, to which I have assigned the present name, from the remarkable circumstance of the female flowers or pistils (for they are perfectly destitute of any kind of floral covering), of the extremity of the spadix, having a short style, those about the middle a longer one, and those at the base, especially among the roots, where the spatha and the spadix have their origin, with a style two inches and more long, slender and filiform! It is to be regretted that very few specimens were preserved, and those having, as far as can be seen, only female flowers.

Tab. CLXXXV. *Fig.* 1, Spadix and spatha; *f.* 2, 3, 4, Female flowers; *f.* 5, Fruit; *f.* 6, The same laid open; *f.* 7, Seed:—*magnified.*

5. PHYLLOSPADIX. *Nov. Gen.*

Dioicus? Masc.?—Fœm. *Spadix* e spatha curvata (foliorum basi) inclusa, canaliculata, hinc supra florifera, marginibus foliiferis, foliis seu squamis oblongis subimbricatis; floribus nudis, serie singula subimbricatis, sessilibus. *Ovarium* sessile, lato-ovatum, subglobosum. *Stylus* breviusculis, crassus. *Stigma* capitatum. *Fructus* —?—Herba *oræ occidentalis Americæ borealis, aquatica, radice nodosa fibris albidis, veterum foliorum reliquiis, vestita.* Caules *breves vaginati.* Folia *linearia, elongata, graminea, subcoriacea, siccitate nigrescentia, nervosa, obscure costata, integerrima.* Spatha *lata, convoluta, curvata, spadicem includens.*

1. *P. Scouleri.* (Tab. CLXXXVI.)

Hab. Dundas Island in the Columbia River, N. W. America. *Dr Scouler.*—This is a second new genus of *Naiades* which has rewarded Dr Scouler's researches in the north-west shores of America. Its nearest affinity is doubtless with *Zostera*, from which the separated male flowers, the single style and stigma, and the curious leafy border to the spadix, will at once distinguish it.

Tab. CLXXXVI. *Fig.* 1, Spatha, including the spadix; *f.* 2, Side view of the spadix removed from the spatha; *f.* 3, The same, front view, the margins spread open; *f.* 4, Spatha, from which the spadix has been removed; *f.* 5, Single pistil:—more or less *magnified.*

6. POTAMOGETON. *L.*

1. *P. natans. L.—Ph. Am.* 1. *p.* 120. *E. Bot. t.* 1832.—*β.* foliis minoribus angustis acutis.

Hab. Stagnant waters, Canada, to Hudson's Bay.—*β.* N. W. America. *Mr Menzies.*

2. *P. rufescens. Schrad.*—P. fluitans. *Roth.*—*Sm. E. Bot. t.* 1286. *Ph. Am.* 1. *p.* 120.

Hab. The same country with the preceding; and intermediate, as it appears, between it and the following.

3. *P. heterophyllus. Schreb.*—*Ph. Am.* 1. *p.* 120. *E. Bot. t.* 1285.—β. foliis natantibus nullis.

Hab. With the preceding.—β. Cumberland House Fort. *Drummond.*

4. *P. diversifolius. Bart.*—*Torrey Fl. Un. St. p.* 197.—P. setaceus. *Ph.* (*not Willd.*)

Hab. Norway House Fort to Canada. *Dr Richardson. Drummond.*—A beautiful little species, *P. diversifolius* in miniature, but readily known by its small size and few-flowered spikes.

5. *P. perfoliatus. L.*—*Ph. Am.* 1. *p.* 120. *E. Bot. t.* 168.

Hab. Canada, to the Slave River. *Dr Richardson.*

6. *P. prælongus* (Wulff.); foliis oblongis obtusis plurinerviis nervis 3 validioribus omnibus reticulatim connexis, pedunculis longissimis, spicis cylindraceis multifloris. *Hook. Br. Fl. ed.* 4. *p.* 70.—P. lucens. *Torr. Fl. p.* 197.

Hab. English River. *Dr Richardson.*—I think it probable that Dr Torrey's *P. lucens* may be this species, for he particularly mentions the great length of the peduncle; and because I have *P. prælongus* also from Texas and Boston, showing that it is a widely distributed plant in N. America. The real *P. lucens* I do not possess from that country.

7. *P. zosteræfolius* (Schum.); caule ancipiti stipulis liberis, foliis alternis lato-linearibus acutis plurinerviis venis tribus validioribus omnibus reticulatim connexis, spicis cylindricis pedunculisque elongatis. *Hook. Br. Fl. ed.* 4. *p.* 69. *et in E. Bot. Suppl. t.* 2685.—β. *minor*, floribus laxioribus.

Hab. Cumberland House Fort, on the Saskatchawan, to Hudson's Bay. *Dr Richardson. Drummond.*—β. Portage la Loch. *Dr Richardson;* and York Factory, Hudson's Bay. *Drummond.*—A very distinct and very handsome species. May not this be the *P. compressus* of Torrey?

8. *P. pusillus. L.*—*E. Bot. t.* 215.—P. pauciflorus. *Ph.*

Hab. Canada. *Cleghorn.* Cumberland House, and York Factory, Hudson's Bay. *Dr Richardson. Drummond.*

9. *P. pectinatus. L.*—*Ph. Am.* 2. *p.* 121. *E. Bot. t.* 323.—P. marinus. *L.*—α. pedunculo foliis longiori, foliis gracilioribus.—β. pedunculo foliis breviori, foliis latioribus.

Hab. Canada (*Ph.*), to English River; *Dr Richardson;* and from Hudson's Bay to alpine lakes in the Rocky Mountains. *Drummond.* N. W. Coast, Columbia. *Dr Scouler.*

Ord. VII. SMILACEÆ. *Br.*

1. SMILAX. *L.*

1. *S. rotundifolia* (L.); caule tereti striato flexuoso aculeato fruticoso scandente, foliis brevi-petiolatis subrotundo-ovatis acutis subtus concoloribus, umbellis paucifloris brevis-

sime petiolatis. *Ph. Am.* 1. *p.* 250.—S. caduca? and S. quadrangularis? *Willd.*—*Wats. Dendrol. t.* 109.

Hab. Canada. *Pursh. Drummond.*—This was only gathered with ripe fruit by Mr Drummond. What I have received from the United States' botanists as *S. caduca*, does not seem to differ from this species, and Dr Torrey (*in Herb. nostr.*) quotes the *S. quadrangularis* of Willd. as the same plant.

2. *S. peduncularis* (Muhl.); herbacea subsimplex, caule inermi erecto subscandente (siccitate) angulato, foliis sublonge petiolatis ovato-subcordatis teneris glaberrimis sensim acuminatissimis 7-9-nervis subtus pallidioribus subglaucescestibus, pedunculis longissimis folium longe superantibus, umbellis multifloris, ovarii loculis biovulatis. (Tab. CLXXXVII. B.)—*β.* foliis basi acutioribus.—S. herbacea. *L.*—*Bot. Mag. t.* 1920.

Hab. Canada, to Lake Winipeg and Red River. *Douglas.*—I think it will be found that *S. herbacea* is only a var. of the present species.

Tab. CLXXXVII. B. *Fig.* 1, Female flower; *f.* 2, Ovary cut through vertically, showing two of the cells, each with two ovules.

3. *S. lasioneuron;* herbacea subsimplex, caule inermi erecto subscandente siccitate angulato, foliis cordato-rotundatis obtusis cum acuminulo 9-nerviis supra glaberrimis subtus subglaucescentibus nervulis pilosis, pedunculis petiolum parum superantibus folio multo brevioribus, umbella multiflora. (Tab. CLXXXVII. A.)

Hab. Carlton House Fort on the Saskatchawan. *Dr Richardson.*—This is an herbaceous species, and allied to the last, though truly distinct, not only in the form of the leaves, and the downiness of the under-surface, but in the comparatively very short peduncles.

Tab. CLXXXVII. A. S. lasioneuron. *Fig.* 1, Flower.

2. STREPTOPUS. *Mich.*

1. *S. distortus* (Mx.); foliis oblongo-ovatis amplexicaulibus marginibus nudis subtus glaucis, pedicellis elongatis distortis geniculatis, sepalis longe acuminatis reflexis, antheris acutissimis integris, stigmate truncato. (Tab. CLXXXVIII. A.)—*Ph. Am.* 1. *p.* 232. *Torrey.* 1. *p.* 353.—S. amplexifolius. *De Cand.*—Uvularia. *L.*

Hab. Canada, to the Saskatchawan, and from Newfoundland and Hudson's Bay to the Rocky Mountains, and thence to the Columbia, and north to Fort M'Laughlin and Sitcha, on the N. W. coast. *Dr Richardson. Drummond. Bongard. Tolmie,* &c.—The most careful comparison of this and the European *S. amplexifolius* have satisfied me that the two plants offer no specific distinction whatever. I prefer, however, Michaux's name as much more characteristic.

Tab. CLXXXVIII. A. S. distortus. *Fig.* 1, Flower; *f.* 2, 2, Outer and inner sepal, with the stamen. *f.* 3, Pistil.

2. *S. roseus* (Mx.); foliis oblongo-ovatis amplexicaulibus marginibus ciliatis subtus concoloribus, pedicellis breviusculis reflexis, sepalis angustis acuminatis apicibus patentibus, antheris apice bifidis, stigmatibus trifidis. (Tab. CLXXXVIII. B.)—*Mx. Am.* 1. *p.* 201. *t.* 18. *Ph. Am.* 1. *p.* 232. *Torrey.* 1. *p.* 352.—Uvularia rosea. *Pers.*—*Bot. Mag. t.* 1489.

Hab. From Lake Huron to the Saskatchawan. *Dr Todd. Dr Richardson. Drummond.* N. W. Coast, from the Columbia to lat 58°. *Douglas. Tolmie. Dr Scouler. Bongard.*—Readily distinguished from the preceding by the ciliation, and by the colour of the under surface, by the shorter and not peculiarly distorted pedicels, and by the smaller flowers, with narrower, more erect, and more distinctly placed sepals; and especially by the bifid anthers and trifid stigma, in which latter particular it seems to connect this genus with the following.

Tab. CLXXXVIII. B. *Fig.* 1, Flower; *f.* 2, Sepal and stamen; *f.* 3, pistil:—*magnified.*

3. UVULARIA. *L.*

1. *U. lanuginosa* (Pers.); foliis ovatis acuminatis sessilibus impunctatis ciliatis inferioribus amplexantibus junioribus subtus pedunculisque binis terminalibus pubescentibus, perianthii basi acuta foliolis lineari-lanceolatis, stylo glaberrimo. *Ker. Bot. Mag. t.* 1409.—Streptopus lanugin. *Mx.—Ph. Am.* 1. *p.* 232. *Torrey.* 1. *p.* 353.—Uvularia puberula. *Rich. App. p.* 10, *cum descr.* (*certe.*) *an Mich. Am.* 1. *p.* 199?—β. *major;* foliis majoribus basi cordatis amplexantibus sepalisque obtusissimis distincte reticulatim venosis.

Hab. Woody country, Lake Winipeg, to the Rocky Mountains. *Dr Richardson. Drummond.*—Columbia River, N. W. Coast. *Tolmie. Gairdner.*—β. Between Norway House and Cumberland House Fort. *Dr Richardson.*—This plant is certainly rather an *Uvularia* than a *Streptopus;* and, besides the following, there are several nearly allied species in Northern India, such as *Uvularia Hamiltoniana* and *U. calcarata,* &c. of Wallich. The stem in all is rather tall, dichotomously branched, the leaves broad, distichous, the flowers more or less drooping, more or less clustered, and terminal; the sepals nectariferous, the anthers oblong obtuse, the stigma trifid. What Michaux's *Uvularia puberula* is, I am unable to say, probably, as Dr Richardson conceives, the present plant; but Michaux says, "affinis *U. sessilifolia,*" which is certainly not the case with our plant. Sir James Smith confounded it with the following species, from the shores of the Pacific.

2. *U. Smithii;* foliis ovatis acuminatis sessilibus nitidis punctatis ciliatis glabris junioribus subtus ad nervos puberulis, pedunculis terminalibus binis styloque pubescentibus, perianthii basi lata truncata foliolis lanceolatis. (Tab. CLXXXIX.)—U. puberula. *Sm. in Rees. Cycl.* (*not Mich.*)

Hab. Nutka Sound. *Mr Menzies. Dr Scouler.*—This appears to be a very distinct species in the flowers, of which we find a remarkable approach to the *U. calcarata,* where the base of each sepal forms a nectariferous spur, while in ours it forms an angle, thus giving the peculiar truncated appearance to the base of the flower. The leaves are shining, very pellucid, beautifully reticulated with transverse veins, and marked all over, and on both sides, with small brown dots. It is probably rare. I possess but one specimen from each of the above travellers; but I must observe, that the species of this genus appear liable to much variation; and some of the western specimens of *U. lanuginosa* are a little more obtuse than usual at the base, and a little downy at the lower part of the style.

Tab. CLXXXIX. *Fig.* 1, Portion of a leaf; *f.* 2, Sepal and stamen; *f.* 3, Pistil:—*magnified.*

3. *U. perfoliata* (L.); foliis perfoliatis ellipticis cum acuminulo, flore terminali solitario pendulo, perianthio campanulato intus papilloso, antheris acutis. *Sm. Ex. Fl.* 1. *p.* 95. *t.* 49. *Ph. Am.* 1. *p.* 231. *Bot. Mag. t.* 955.—U. perfoliata, *minor. Mx. Am.* 1. *p.* 199.

Hab. Canada. *Pursh.*—I possess garden specimens of this species, which appear distinct, and others from Boston, United States; but I have received none from Canada, or any part of British N. America.

4. *U. grandiflora* (Sm.); foliis perfoliatis elliptico-oblongis acutis, flore terminali solitario pendulo, perianthio longe campanulato intus nudo, laciniis acuminatis, antheris longe linearibus obtusis. *Sm. Ex. Fl. p.* 99. *t.* 51. *Bot. Mag. t.* 1212. *Ph. Am.* 1. *p.* 391. —U. perfoliata, *major*. *Mx. Am.* 1. *p.* 199.—U. lanceolata. *Willd.*

Hab. Lake Huron, to the Saskatchawan. *Dr Todd. Dr Richardson. Drummond.*—The much longer and more acuminated and yellower sepals, free from papillæ, and the very long and obtuse anthers, will readily distinguish this from the preceding. The *U. flava*, Sm. (*Ex. Fl. t.* 50), from Carolina, however, seems almost intermediate, having larger and longer and yellower flowers, like the present, and papillose sepals and pointed short anthers, like the former.

5. *U. sessilifolia* (L.); foliis sessilibus oblongo-subovatis acutis, flore terminali solitario pendulo, perianthio oblongo-campanulato intus lævi laciniis obtusis, antheris linearibus obtusis. *Sm. Ex. Fl.* 1. *p.* 101. *t.* 52. *Mx. Am.* 1. *p.* 199. *Ph. Am.* 1. *p.* 233.

Hab. New Brunswick (*Mr Kendal*), and throughout Canada to the Saskatchawan. *Dr Richardson. Mr Drummond.*

4. SMILACINA. *Desf.*

1. *S. borealis* (Gawl. *Bot. Mag. t.* 1403); foliis subradicalibus obovato-oblongis acutis plerumque ciliatis, scapo glabro folia longe superante umbella pauci-(3-6)-flora ebracteata, perianthii campanulati nutantis laciniis lanceolatis. *Ph. Am.* 1. *p.* 232.—Dracæna borealis. *Ait. Kew. ed.* 1. *t.* 5.

Hab. New Brunswick. *Dr Todd.* Newfoundland. *Dr Morrison.* Canada. *Pursh. Mrs Percival;* to the Saskatchawan. *Dr Richardson. Drummond.*—Flowers yellowish-green.—This is very different from the *S. umbellulata* (Mx.), which has much smaller and more copious white flowers, whith spreading obovate sepals, and was gathered by Mr Drummond in the Alleghanies, where Michaux first discovered it; but its northern boundary is within the States.

2. *S. uniflora* (Menz. mst.); foliis subradicalibus 2-3 obovato-lanceolatis acutis subtus margine pilosis, scapo pubescente unifloro longitudine foliorum, perianthii hirsuti latocampanulati erecti laciniis obovato-lanceolatis. (Tab. CXC.)—S. borealis. β. uniflora. *Roem. Syst. Veget. v.* 7. *p.* 307.

Hab. N. W. America, from Fort Vancouver to Observatory Inlet, and on mountains of the interior. *Mr Menzies. Douglas. Dr Scouler. Tolmie.*—An extremely different species from the last, much smaller, with narrower foliage, and a solitary flower almost twice the size of that of *S. borealis*, and much more hairy. The berries are, when recent, of a fine rich blue colour (*Douglas*). Root very long, and stoloniferous.

Tab. CXC. *Fig.* 1, Sepal and stamen; *f.* 2, Pistil:—*magnified.*

3. *S. trifolia* (Desf.); caule alterne trifoliato, foliis oblongo-lanceolatis acutis basi angustata amplexantibus, racemo simplici terminali laxo. *Ph. Am.* 1. *p.* 233.—Convallaria. *L.—Torrey.* 1. *p.* 354. *Gmel. Sib.* 1. *t.* 6.

Hab. Swamps throughout Canada, to Bear Lake and the Rocky Mountains. *Dr Richardson. Drummond.* Newfoundland. *Mr Cormack.* Labrador. *Miss Brenton.*—This is certainly the same as the Siberian plant of the same name.

4. *S. stellata* (Desf.); caule alterne plurifoliato, foliis ovali-lanceolatis acutis basi subrotundatis, racemo simplici terminali. *Ph. Am.* 1. *p.* 232.—Convallaria. *L.*—*Torrey.* 1. *p.* 354. *Bot. Mag. t.* 1043.

Hab. From Lake Huron to the Saskatchawan, and from Hudson's Bay (*Dr Wright*) to the Rocky Mountains. *Dr Richardson. Drummond.* N. W. Coast and interior. *Douglas. Tolmie. Dr Scouler.*—The berries are esteemed poisonous; the root is employed as an emetic. (*Richardson.*)

5. *S. racemosa* (Desf.); caule alterne plurifoliato, foliis sessilibus oblongo-ovalibus acuminatis, racemo terminali composito. *Ph. Am.* 1. *p.* 234.—Convallaria. *L.*—*Torrey.* 1. *p.* 354. *Bot. Mag. t.* 899.

Hab. Throughout Canada to the Saskatchawan and the Rocky Mountains. *Dr Richardson. Drummond.* N. W. America. *Dr Scouler.*—More or less pubescent. The largest of the N. American species (the leaves a span and more long), with the smallest and most copious flowers.

5. *S. bifolia* (Roem.); caule alterne bi-trifoliato, foliis ovato-cordatis sessilibus vel petiolatis, racemo simplici terminali, floribus tetrandris tetrasepalis.—Convallaria. *L.*—*Mich.*—*Bot. Mag. t.* 510. *Torrey.* 1. *p.* 253.—Maianthemum Canadense. *Desf.*—Convall. Canad. *Ph. Am.* 1. *p.* 233.

Hab. Throughout Canada to Bear Lake; and from Hudson's Bay and Newfoundland to the Rocky Mountains. N. W. America, frequent. *Douglas. Dr Scouler. Tolmie.*—A very common and a variable plant. More or less downy or glabrous. Leaves sessile or petiolate, (in some of the specimens from Fort Simpson and from Sitcha, on the N. W. coast, the petiole is 3-4 inches long,*) broadly cordate or narrow ovato-cordate. There is no reason whatever for considering the American plant different from the European one.

5. POLYGONATUM. *Desf.*

1. *P. multiflorum. Desf.*—Convallaria. *L.*—*E. Bot. t.* 279.—*β. Americanum;* floribus brevioribus foliis subtus plerumque pubescentibus.—Convallaria multiflora. *Ph. Elliott. Torrey.*—P. pubescens, P. canaliculatum, P. hirtum, P. latifolium, and P. angustifolium, of *Ph.* (Convallaria *alior.*), *may perhaps all be safely referred to this.*

Hab. Canada, *Pursh*, to the Saskatchawan. *Dr Richardson. Lady Dalhousie.*—All the specimens of *Polygonatum* that I have received, under very different names, from the United States botanists, it appears to me, are referable to the European *P. multiflorum:* but the leaves are generally downy beneath, and the flowers are certainly shorter and greener, not so slender in proportion to their length, nor so much contracted near the middle (more cylindrical), as in the European specimen. In the dried specimens, the rounded succulent stem, from shrinking, becomes more or less angular or channelled, whence seems to have arisen the *P. canaliculatum* of Muhlenberg. The *P. angustifolium* (*C. biflora*, Walt. and Torrey) is only a narrow leaved var.—The single specimen found at the Saskatchawan is in fruit, and is quite glabrous on both sides of the foliage.

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* This is *S. bifolia*, var. *Kamtschatica* of Bongard in Herb. nostr., and appears to be pretty constant to its character in the very northern regions, both on the Asiatic and American side. I have the same from Kamtschatka, from Pallas' Herbarium.

Ord. VIII. MELANTHACEÆ. *Br. Lindl.*

1. LEIMANTHIUM. *Willd.*

1. *L. hybridum* (Roem.); panicula racemosa elongata, sepalis orbicularibus undulatis longe unguiculatis, glandulis connatis. *Gray. Melanth. Am. Sept. Rev. p.* 116.—Melanthium hybridum. *Walt.—Ph. Am.* 1. *p.* 242. *Torrey.* 1. *p.* 367. *Nuttall.*—M. racemosum. *Mich.*

Hab. Upper Canada. *Mr Goldie* (*in Herb. nostr.*).—Nuttall describes the leaves as elliptic-oblong: Torrey, as they are in our specimens, long and linear.

2. *L. Nuttallii*; racemo compacto demum elongato, bracteis subulato-lanceolatis basi membranaceis pedicellos floriferos superantibus, sepalis ovatis undulatis unguiculatis, foliis linearibus conduplicatis marginibus scaberrimis, bulbo tunicato.—Amianthium Nuttallii. *Gray. l. c. p.* 123.—Helonias angustifolia. *Nutt.* (*non Mx.*) *and* H. paniculata. *Nutt.* (*fide Gray.*)

Hab. N. W. Coast. *Menzies.* Common both to the north and south of the Columbia, on dry gravelly soils. *Douglas. Dr Scouler. Tolmie. Dr Gairdner.*—"*Poison* or *Death Camass*" of the Chenooks, from the violent effects of the roots, which create vomiting. Bulb about the size of a chestnut. Stem 1-2 feet high, sparingly leafy. Pedicels much elongated, erect after flowering. Capsules (of three slightly combined follicles) half an inch and more long, oblong-triangular, surrounded at the base with the withered perianth, and terminated by the three nearly erect persistent styles, opening at the top between the styles. Seeds, about two perfect ones in each cell, oblong somewhat 3-angular, the angles almost forming wings. The sepals are distinctly clawed, and at the top of the claw is a depression, where the sides, lapping over a little, give the appearance of two small scales: but the nectary is rather a depression than an appendage. The habit of the plant is extremely like that of *Helonias angustifolia*, but the sepals are of a very different structure.

2. ZIGADENUS. *Mich.*

1. *Z. chloranthus* (*Rich. App. p.* 12); scapo pauci-folioso, racemo subsimplici, sepalis obovatis obtusis, glandula obcordata profunde emarginata.—Z. commutatus. *Schult. Syst. Veget.* 7. *p.* 1560. *Hook. et Arn. in Bot. of Beech. p.* 161.—Z. glaberrimus. *Ker, Bot. Mag. t.* 1680. (*not Mich.*)—Z. glaucus? *Nutt. Pl. of Rocky M. p.* 56. *Gray. l. c. p.* 113.—Melanthium glaucum? *Nutt. Gen.* 1. *p.* 232.—*β. major*; foliis longioribus, scapo paniculato.—Z. speciosus. *Dougl. mst.*—Z. glaberrimus. *Hook. et Arn. in Bot. of Beech. p.* 160. (*not Mich.*)

Hab. Upper Canada. *Nuttall? Goldie;* to Great Bear Lake, and to the Rocky Mountains. *Dr Richardson. Drummond.*—*β.* Rocky Mountains (with *α.*), and to the vallies on the west side. *Drummond. Douglas.* Murray Bay, Canada. *Mrs Sheppard.*—(To this var. I would refer the Californian *Z. glaberrimus* of the Bot. of Beechey's Voy.)—I am quite satisfied that the *Z. glaberrimus* of Bot. Mag. is this plant, and that it is a very distinct species from the real *glaberrimus* of Mx., of which I have Georgian specimens from Dr Torrey, in which the sepals are ovato-lanceolate, and the two glands are apart from each other and very conspicuous: here they are combined into one obcordate gland. The species is, however, liable to considerable variation in the size, in the more or less leafy stem, in the length of the leaves, and in the more or less paniculated raceme. I do not know whether to infer from the following remark of Nuttall that he

considers the *Z. chloranthus* to be identical with his *Z. glaucus* or not. "Why," he says, "this species (*Z. glaucus*) should have been changed to the name of *chloranthus*, by Richardson, I am at a loss to conceive, since the flower is more white than any other colour." He does not, however, adduce it as a synonym: and further remarks—"the northern plant is probably something different."

2. *Z. elegans* (Ph.); scapo subnudo, bracteis linearibus, petalis acutis. *Ph. Am.* 1. *p.* 241.

Hab. Waters of Cokablaishkit River, near the Rocky Mountains. *M. Lewis* (*in Ph.*). In the vallies of the Rocky Mountains, near the sources of the Columbia, and on the banks of the Saskatchawan and Red Rivers. (?) *Douglas, mst.*—I have no specimen in Mr Douglas' collection, but there can scarcely be a question that his plant is *Z. chloranthus*, whatever Pursh's may be.

3. *Z. glaucus* (Nutt. *in Pl. of Rocky M. p.* 56); "bulbo tunicato, foliis glaucis gramineis marginatis, racemo plerumque simplici paucifloro, floribus hermaphroditis, petalis rotundatis unguiculatis bimaculatis, seminibus subulato-alatis."—Melanthium glaucum. *Nutt. Gen. Am.* 1. *p.* 232.

Hab. Banks of the St Lawrence, around the Cataract of Niagara, and on the borders of Lakes Erie and Huron. *Nuttall.*—This seems to be only known to Mr Nuttall, if it be really distinct from *Z. chloranthus*.

3. XEROPHYLLUM. *Mich.*

1. *X. tenax* (Ph.); foliis longissimis tenacissimis lineari-acuminatissimis marginibus scabris subtus glaucis, racemis longissimis densifloris, pedicellis erectis, filamentis filiformibus perianthium superantibus, bracteis membranaceis. *Ph. Am.* 1. *p.* 243. *t.* 9. *Gray. l. c. p.* 129.—X. setifolium. *Lindl. Bot. Reg. t.* 1613. (*vix Mx.*)

Hab. High lands of the Rocky Mountains (*M. Lewis*), and summits of the hills around Mount Hood, Mount St Helens, and the Cascade Mountains. *Douglas.* Near the summit of Mount Rainier. *Tolmie.*—Stem 2-4 feet high. Leaves 2-3 feet long, drooping, chiefly from the root: having, as Mr Douglas remarks, the habit of *Bonapartea juncea*. It is one of the greatest ornaments of the western mountains, and the natives make baskets, hats, pouches, bags, bottles, mats for sleeping on, &c., of its strong foliage. Racemes a foot and more long. Capsules triangulari-orbicular, 3-celled, 3-6-seeded, seeds oblong, triangular, and somewhat winged at the angles.

4. HELONIAS. *Linn.*

1. *H. dioica. Ph. Am.* 1. *p.* 243. *Gray. l. c. p.* 132.—H. lutea. *Ait.*—*Bot. Mag. t.* 1062.—H. pumila. *Jacq.*—Veratrum luteum. *L.*

Hab. Canada. *Gray.*

5. VERATRUM. *L.*

1. *V. viride. Ait. Hort. Kew. ed.* 1. *v.* 3. *p.* 422. *Ph. Am.* 1. *p.* 242. *Gray. l. c. p.* 118.—V. album. *Mich. Am.* 2. *p.* 249. (*an Linn.?*)—Helonias viridis. *Bot. Mag. t.* 1096.—V. parviflorum. *Bong. Veg. de Sitcha, p.* 48. *vix Mx.*—V. Lobelianum. *β.* Eschscholzianum. *Schult. Syst. Veg. v.* 7. *p.* 1555.—V. Eschscholzii. *Gray. l. c. p.* 119.

Hab. Canada, to the Saskatchawan and the Rocky Mountains. *Drummond;* and from the Columbia on the west side to Stikine. *Douglas. Dr Scouler. Tolmie. Dr Gairdner.*—The north-western plant is the same as the eastern one; and probably the *V. Lobelianum, β.* Schultz (*V. parviflorum*, Bong.), from Nor-

folk Sound, and from Sitcha, is merely a small flowered variety. The original *V. parviflorum* is a Carolina plant. Again, the *V. angustifolium* of Pursh (foliis longissimis linearibus carinatis), of which the original specimens are from the high mountains of Virginia and Carolina, that author has, in his Suppl., considered to be also a native of Canada, because he found a specimen in Sherard's herbarium, marked "*Phalangium Canadense*," &c.; but this, I fear, is not alone sufficient authority for introducing it into a Flora of British America. I have a Mexican *Veratrum* (*V. officinale*, Klotzsch, mst.) which, in the foliage, well agrees with Pursh's *V. angustifolia*. Perhaps the *V. viride* is not really distinct from the European *V. album*. Gawler says the sepals are broader; but they vary in the American plant considerably.

6. TOFIELDIA. *Huds.*

1. *T. palustris* (Huds.); racemo ovato denso, floribus fructibusque erectis, pedicellis ad basin tribracteolatis, scapo nudo vel raro inferne subunifoliato. *E. Bot. t.* 536. *Gray. l. c. p.* 134.—T. borealis. *Wahl.*—T. pusilla? *Ph. Am.* 1. *p.* 246.

Hab. Labrador (*Dr Morrison*), and Hudson's Bay to Bear Lake Rivers; in the north, and to the Rocky Mountains. *Dr Richardson. Drummond.* Lake Mistassins? *Ph.*—Flowers pale yellowish-white.

2. *T. coccinea* (Rich. *App. p.* 11); racemo spicato ovato-globoso, floribus subsessilibus, fructibus arcte reflexis involucratis, involucro triphyllo, scapo bi-trifoliato folio unico supra medium. *Hook. et Arn. in Bot. of Beech. p.* 130. *t.* 30 (29 in text, by mistake). *Gray. l. c. p.* 135.—T. borealis. *Cham. in Linnæa.* 6. *p.* 584 (*non Wahl.*).—*β. major*; pedicellis longioribus involucri foliolis alternis.

Hab. *α.* Barren grounds from lat. 64° to the shores of the Arctic Sea; about Jasper's Lake on the Rocky Mountains, and on the west coast, north of lat. 58°, to Unalaschka. *Mr Menzies. Nelson. Dr Richardson. Drummond. Chamisso.*—*β.* Mackenzie River. *Dr Richardson.*—This plant is readily known from the preceding by its more flaccid leaves and leafy scape; by the sessile flowers, deeply tinged with red, and the larger bracteas, which form a complete involucre beneath the flower; and, above all, by the singularly deflexed dark-purple fruit. I possess it from Siberia, from Pallas' herbarium, where it is mixed with *T. palustris*, though most assuredly a totally distinct species. The var. with more elongated pedicels, of which only two specimens were gathered by Dr Richardson on the Mackenzie River, must not be confounded with *T. cernua*, Sm., a plant of Gmelin, which has the flowers drooping but the fruit erect; but it is the same with "*S. cernua?* Sm." of Turczaninow, in Herb. nostr., gathered "in alpe Kawokta," in Siberia.

3. *T. glutinosa* (Ph.); racemo coarctato, pedicellis 1-3-nis basi tribracteatis superne calyculo seu involucro monophyllo obscure trifido sub flore, scapo parce folioso apice pedicellisque glanduloso-scabris. (Tab. CXCI.)—*Ph. Am.* 1. *p.* 246. *Sm. l. c. p.* 246. *Gray. l. c. p.* 138.—Narthecium glutinosum. *Mx. Am.* 1. *p.* 210. *t.* 8. *f.* 2.

Hab. Throughout Canada, to Hudson's Bay and Bear Lake, *Dr Richardson*, and to the Rocky Mountains. *Drummond.* N. W. Coast. *Menzies.* Stikine and Sitcha. *Bongard. Tolmie.*—I doubt if the *T. pubens* of the United States be really different from this, except in the less viscid or not viscid glands.

Tab. CXCI. *Fig.* 1, Flowers:—*magnified*; *f.* 2, Raceme of capsules:—*nat. size*; *f.* 3, Young capsule; *f.* 4, Single ripe capsule:—*magnified.*

7. MEDEOLA. *L.*

1. *M. Virginica. L.—Ph. Am.* 1. *p.* 244. *Bot. Mag. t.* 1316.—Gyromia. *Nutt. Torr.*

Hab. Canada. New Brunswick. *Mr Kendal.*

8. TRILLIUM. *L.*

1. *T. petiolatum* (Ph. *Am.* 1. *p.* 244); foliis cordatis obtusis longe petiolatis, flore sessili, petiolis sepalisque lanceolatis erecto-patentibus, caule perbrevi vaginato. (Tab. CXCII.)

Hab. N. W. America. Waters of the Koos-koosky. *M. Lewis.* Common on the springy banks of the Spokan River, near its confluence with the Columbia. *Douglas.*—This is the most distinct of all the species, remarkable for its cordate, not rhomboidal leaves, and the great length of the petioles. In the structure of the flowers it comes nearest to *T. sessile;* but the sepals are nearly as long as the petals, and more erect. Petals dark purple.

Tab. CXCII. *Fig.* 1, Petal; *f.* 2, Stamens and pistil:—*magnified.*

2. *T. erythrocarpum. Mich. Am.* 1. *p.* 216. *Hook. Bot. Mag. t.* 3002 (*not Gawl. t.* 855). —T. pictum. *Ph.*

Hab. Canada.—Readily distinguished by the short but distinct petiole to the leaves.

3. *T. ovatum* (Ph. *Am.* 1. *p.* 249); pedunculo erecto, petalis (pallide purpureis) oblongis calyce lineari paullo longioribus, foliis ovatis sensim acutis arcte sessilibus.

Hab. Columbia River. *M. Lewis.* Woods about Fort Vancouver. *Dr Gairdner. Douglas,* whose specimens have pale purple flowers, and quite answer to Pursh's character.

4. *T. cernuum. L.—Ph. Am.* 1. *p.* 249. *Bot. Mag. t.* 945.

Hab. Canada. *Kalm.* Nova Scotia. *Menzies.* Newfoundland. *Mr Cormack;* and from the Saskatchawan to Mackenzie River. *Dr Richardson. Drummond.*

5. *T. erectum. L.*—*α.* flore atro-purpureo. *Ph. Am.* 1. *p.* 245. *Bot. Mag. t.* 470. T. rhomboideum. *Mx.*—*β.* petalis albis. *Mx. Am. l. c. Bot. Mag. t.* 1027.—*γ.* petalis ochroleucis. *Hook. Bot. Mag. t.* 3250.—T. pendulum. *Willd.*

Hab. *α.* Lake Huron, and throughout Canada, frequent.—*β.* Canada. *Mrs Sheppard. Mrs Percival.*—*γ.* Canada. *Mr Cleghorn.*

6. *T. obovatum* (Ph. *Am.* 1. *p.* 245); pedunculo erecto, petalis obovatis obtusiusculis planis patentibus calyce vix longioribus et latioribus, foliis ovato-rhombeis acuminatis arcte sessilibus. *Ph. l. c.—Hook. et. Arn. in Bot. of Beech. p.* 117. *Reichenb. Hort. Bot.* 1. *p.* 21. *t.* 29.—T. Kamtschaticum. *Pall. Herb.*

Hab. Canada. (?) *Ph.* Columbia; about Fort Vancouver, abundant. *Tolmie.*—The original plant is from Kamtschatka, and our Columbia specimens quite agree with them: but I have not seen any Canadian specimens that can exactly be referred to it. At the same time, I am not sure if this be permanently distinct from *T. grandiflorum.*

7. *T. grandiflorum. Salisb. Parad. Lond. t.* 1. (*excl. Syn.*) *Ph. Am.* 1. *p.* 246.—T. erythrocarpum. *Bot. Mag. t.* 855. (*non Mx.*)—T. rhomboideum. *var.* grandiflorum. *Mx.*

Hab. Lake Huron and throughout Canada. New Brunswick. *Mr Kendal.* Columbia River, N. W. Coast. *Douglas. Dr Scouler.*

Ord. IX. LILIACEÆ. *Juss.*

1. LILIUM. *L.*

1. *L. Philadelphicum. L.—Ph. Am.* 1. *p.* 229. *Bot. Mag. t.* 519.—β. floribus 2-4 subumbellatis.

Hab. Lake Huron (*Dr Todd*), throughout Canada to the Saskatchawan and Prairies of the Rocky Mountains. *Dr Richardson. Drummond.*—β. Observatory Inlet, on the N. W. Coast. *Dr Scouler.*

2. *L. Canadense. L.—Ph. Am.* 1. *p.* 229.—α. uniflorum. *Bot. Mag. t.* 229.—β. pluriflorum. *Bot. Mag. t.* 858.—γ. parviflorum.

Hab. α. β. Canada.—γ. N. W. Coast. Columbia and Walamet Rivers. *Douglas. Tolmie.*—My N. W. American specimens have much smaller flowers, of a redder hue, and are more disposed to be revolute; yet I dare not venture upon making them distinct. One specimen of this var. has the leaves very broad and obtuse.

3. *L. superbum. L.—Ph. Am. p.* 230. *Bot. Mag. t.* 936.—β. uniflorum. L. Carolinianum. *Ph.?—Bot. Reg. t.* 580.

Hab. Canada. *Ph.*—β. Saskatchawan. *Dr Richardson.*—Of the β. a single flowering specimen only was found. Its leaves are an inch broad: the flowers exactly agreeing with the figure of *L. Carolinianum* in Bot. Reg. above quoted, except in being rather more spotted. Are the two really distinct?

2. FRITILLARIA. *L.*

1. *F. Kamtschatcensis* (Fisch. *in Herb. nostr.*); radice omnino granulata, foliis verticillatis subquaternis lato-lanceolatis tenui-membranaceis supremis oppositis solitariisve, floribus terminalibus 1-2 cernuis unicoloribus, sepalis lato-lanceolatis arcte nervosis nervis lamellatis glandulosisque, capsulis obtuse 5-angulatis. (Tab. CXCIII. A.)—Lilium Kamtschatcense. *L.—Lamb. in Linn. Trans. v.* x. *t.* 12. *Hook. et Arn. in Bot. of Beech. p.* 118. —L. quadrifoliatum. *Meyer in Reliq. Hœnk. Fasc.* 2. *p.* 126.

Hab. N. W. Coast, on the beach. Observatory Inlet, to Stikine Sound, Sitcha, and Unalaschka. *Chamisso. Dr Scouler. Tolmie. Bongard.*—Both in this and the following species there is an evident elongated depression or nectary near the base of each sepal, the stigma is trifid, and the habit is altogether that of a *Fritillary*, rather than of any *Lilium*. Voyagers to Kamtschatka (where this species seems more abundant than on the American coast) bring home small white granulated esculent roots, dried on strings; these are the bitter tubers of this *Fritillary*, which are also copiously eaten by the Indians of Stikine, and known by the names of *Koch* or *N. W. Rice;* but Mr Tolmie says they are bitter and nauseous.

Tab. CXCIII. A. *Fig.* 1, Sepal and stamen of Fritillaria Kamtschatcensis; *f.* 3, A lamella from the sepal:—*magnified; f.* 3, capsule:—*nat. size.*

2. *F. lanceolata* (Ph. *Am.* 1. *p.* 230. *excl. syn.*); radice bulbo parvo bulbillifero, foliis verticillatis subquaternis anguste lanceolatis crassiusculis supremis oppositis solitariisve, floribus terminalibus 1-2 cernuis luteo purpureoque tessellatis, sepalis obovato-oblongis laxe nervosis elamellatis, capsulis profunde 5-alatis. (Tab. CXCIII.)—Lilium affine. *Schult. Syst. Veget.* 7. *p.* 400.

Hab. Head waters of the Missouri and Columbia. *M. Lewis* (*in Ph.*). Nutka Sound. *Menzies.* Fort Vancouver on the Columbia. *Douglas. Tolmie.*—Habit of the preceding, but smaller and of a more rigid texture throughout. Leaves much narrower. Flowers tessellated. Sepals with much laxer nervation, the nerves quite destitute of lamellæ and glands. Capsule and roots also exceedingly different.

Tab. CXCIII. B. Fritillaria lanceolata. *Fig.* 1, Sepal and stamen; *f.* 2, Pistil:—*magnified; f.* 3, Capsule:—*nat. size.*

3. *F.? pudica;* foliis alternis lineari-lanceolatis, flore terminali solitario pendulo campanulato, sepalis obovato-spathulatis sessilibus, stigmate integro.—Lilium pudicum. *Ph. Am.* 1. *p.* 228. *t.* 8.

Hab. Head waters of the Missouri. *M. Lewis.* Common on the banks of streams from the Great Falls of the Columbia, to the vallies of the mountains near the source of the Missouri. *Douglas.*—Habit of *Fritillaria*, and the sepals have an obscure nectary; but the stigma is simple. Perhaps it should form a distinct genus, which might include *F. Fleischeri*, Stend. et Hochst. from Smyrna, and *F. tulipiflora*, Bieb., which have altogether the habit of the present plant.—A small and very graceful species, with a solitary terminal very drooping flower, according to Pursh of a pale yellow colour.

3. ERYTHRONIUM. *L.*

1. *E. Americanum* (Gawl. *Bot. Mag. t.* 1113); foliis oblongo-seu elliptico-lanceolatis punctatis, pedunculo unifloro, sepalis oblongo-lanceolatis obtusis ad medium reflexis, stylo clavato trigono, stigmate triangulari integro.—E. Dens Canis, var. *Mx.*—*Willd.*—E. lanceolatum. *Ph. Am.* 1. *p.* 230.—E. flavum. *Sm. in Rees. Cycl.*

Hab. Canada, frequent.—Leaves distinctly dotted with minute papillæ, which are indistinct or wholly wanting in the following species. What I have for *E. albidum*, Ph., from Drs Beck and Torrey, seems merely a white-flowered var. of this, with less conspicuous papillæ on the leaves.*

2. *E grandiflorum* (Ph.); foliis oblongo-seu elliptico-lanceolatis vix punctatis, pedunculo 1-paucifloro, sepalis lanceolatis valde acuminatis fere ab ima basi reflexis, stigmate tripartito.—*α. minor;* caule unifloro, flore flavo.—E. grandiflorum. *Ph. Am.* 1. *p.* 231. *Lindl. Bot. Reg. t.* 1786.—*β. giganteum;* caule 2-5-floro, floribus flavis.—E. giganteum. *Lindl. l. c. ad calcem.*—*γ. albiflorum;* caule elatiori unifloro, flore albo.—*δ. Smithii;* caule elato unifloro, flore purpureo-roseo.—E. revolutum. *Sm. in Rees. Cycl.*

Hab. *α.* N. W. America. Banks of Koos-koosky River. *M. Lewis.*—*α.* and *β.* Summit of the low hills near the junction of Spokan River with the Columbia, and in the vallies west of the Rocky mountains, often in blossom before the snow has disappeared. *Douglas.*—*γ.* Fort Vancouver. *Menzies.*—It will be seen that the indefatigable and venerable Menzies was the first to discover this fine and very distinct species, though he only appears to have found a pale purple-flowered variety. Specimens in my collection bear from 1 to 4 flowers, and they are so described in Douglas mst. The colour of the blossom seems very variable.

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* I possess from Dr Boott a very remarkable state of this plant, or a distinct species, from Vermont, U. S., *E. bracteatum*, Boott, mst. The leaves are lanceolate, and taper gradually into the foot-stalk. The flower is small ($\frac{3}{4}$ of an inch long), greenish, and there is a bractea on the peduncle, indicating a disposition to bear more than one flower. Only one specimen was found.

4. CALOCHORTUS. *Ph.*

Flores erecti, explanati, patentes. *Sepala* glabra, convoluto-acuminata. *Pet.* majora, rotundata, plana, medio barbata, basi maculata glabra. *Stylus* 0. *Stigmata* 3. *Caps.* triangularis, coriacea. *Semina* serie simplici affixa, plana, testa suberosa.—Bulbi *tunicati, foliis convoluto-acuminatis rigidis. Lindl.*

1. *C. macrocarpus* (Dougl. *Hort. Trans.* 7. *p.* 276. *t.* 8); caule 3-5-phyllo bifloro, petalis præter fasciculum pilorum glabris, capsulis erectis lineari-oblongis. *Lindl. Bot. Reg. t.* 1152.

Hab. N. W. Interior. Great Falls and southern branches of the Columbia. *Douglas.*—One of the most lovely of plants; flowers large purple.

2. *C. nitidus* (Dougl. *Hort. Trans.* 7. *p.* 277. *t.* 9. A); caule 2-3-phyllo quadrifloro, petalis interioribus præter pilorum fasciculum sparse lanatis, capsulis erectis ovalibus.

Hab. N. W. Interior. Vallies of the Blue Mountains, and mountainous district of the Columbia, and about Spokan River. *Douglas.*

3. *C. elegans* (Ph. *Am.* 1. *p.* 240); caule 1-folio 1-5-floro, petalis interioribus obovatis intus toto pilosis, floribus subcernuis.—Cyclobothria elegans. *Benth. Lindl.*—*α. minor;* caule unifloro. *Dougl. in Hort. Trans. v.* 7. *t.* 9. B. (*left-hand figure.*)—*β. major;* caule 3-5-floro. *Dougl. l. c. t.* 9. B. (*right-hand figure.*)

Hab. *α.* Recesses of the Rocky Mountains, near the regions of perpetual snow. *Douglas.*—*β.* In the vallies of the Columbia. *Douglas.* Banks of the Wallamet. *Tolmie.*—My specimens from the Wallamet agree with the larger variety of Mr Douglas, but are still larger, a foot high, and with flowers full twice the size of *α.* In other respects the two plants accord. The blossoms appear white, with a bluish tinge. Mr Bentham refers this to *Cyclobothria* of Sweet: but it appears to me, if the two genera are to be kept separate, that this is more naturally allied to *Calochortus.* The flowers can scarcely be called drooping, and the seeds, which are said to differ in the two genera, are not known in this plant. But be that as it may, the name *Calochortus* must be retained to the present species, being the very one on which the genus was founded.

Ord. X. ASPHODELEÆ. *L.*

1. ANTHERICUM. *L.*

1. *A. serotinum. L.—E. Bot. t.* 793.—Lloydia. *Salisb. Lindl.*—Nectarobothrium. *Ledeb.*—Rhabdocrinum. *Reich.*

Hab. Unalaschka. *Chamisso* (*in Herb. nostr.*). Northern Arctic Coast, rare. *Dr Richardson.*—Only four specimens were gathered by Dr Richardson, and the flowers varied from 1-3 on a stem.

2. ALLIUM. *L.*

1. *A. striatum. Jacq. Ic. Rar.* 2. *t.* 366. *Bot. Mag. t.* 1035. *and* 1524. *Ph. Am.* 1. *p.* 222. —Ornithogalum bivalve. *L.*

Hab. Cultivated in the Bot. Garden of Glasgow, from seeds received from the N. W. Coast.

2. *A. cernuum. Roth.—Bot. Mag. t.* 1324. *Ph. Am.* 1. *p.* 222.

Hab. Lake Erie. *Mr Goldie.*

3. *A. stellatum* (Fraser, Cat.); bulbo oblongo-ovato, foliis radicalibus linearibus, scapo elongato tereti, umbella erecta multiflora laxe fastigiata, sepalis (roseis) oblongo-ovatis acutis longitudine staminum, ovario trilobo, lobis superne bicristatis. (Tab. CXCIV.) —*Gawl. Bot. Mag. t.* 1576.

Hab. Plains of the Saskatchawan. *Drummond.* Nutka, where the bulbs are used as an esculent.—A foot to a foot and a half high. Bulb ovate, gradually narrowing upwards, and, as well as the lower part of the leaves, sheathed with a lacerated membrane. Leaves shorter than the scape, linear, flat, all arising from the root. Umbel of from 10 to 16 rather small, bright rose-coloured flowers. Sepals ovate, acute. Germen of 3 lobes, each with a double wing-like crest at the top, which remains and forms part of the fruit, and which is the most striking mark of the species. Seeds pitted.

Tab. CXCIV. *Fig.* 1, Flower; *f.* 2, Perianth laid open; *f.* 3, Pistil; *f.* 4, Fruit:—*magnified.*

4. *A. reticulatum* (Fraser, *Cat.*); bulbo oblongo extus dense reticulatim fibroso, foliis radicalibus, umbella erecta multiflora dense fastigiata, sepalis ovato-acuminatis (albis) stamina superantibus, ovario apice breviter sexfido. (Tab. CXCV.)—A. stellatum. β. *Gawl. Bot. Mag. t.* 1840.—A. angulosum. *Ph. Am.* 1. *p.* 223. *Rich. App. p.* 10. (*non Linn.*)

Hab. Woody country, especially about Carlton House Fort. *Dr Richardson. Douglas.* Interior of Columbia, and along the N. W. Coast, to Nutka. *Menzies. Douglas.*—The species of *Allium* in the present collection, though few in number, are extremely puzzling. The Carlton House specimens of the present plant seem to correspond exactly with the *Allium stellatum*, β. Gawl. (which is considered the *A. reticulatum* of Fraser), especially in the densely matted fibrous coat to the roots, which occasioned the specific name: but Dr Richardson's specimen of *A. angulosum*, which I refer to this, and some of the north-west specimens, have not this fibrous covering to the root; but as it is but loosely attached, it may have been accidentally removed. This plant is remarkable for the white, glossy flowers; in shape, and in that of the leaves, very much resembling *A. stellatum*, of which Mr Gawler seemed inclined to consider it a variety; but the sepals are narrower, the stamens shorter, and the double crest upon the lobes of the germen and capsule are very much more indistinct. These plants can be but ill understood without figures and analysis of the flowers.

Tab. CXCV. *Fig.* 1, Flower; *f.* 2, Perianth laid open; *f.* 3, Pistil; *f.* 4, Capsule:—*magnified.*

5. *A. acuminatum;* foliis linearibus brevibus paucis radicalibus, scapo humili tereti, umbella pluriflora patente, sepalis roseis subovalibus acuminatissimis basi gibbosis interioribus minute serrulatis apicibus recurvis, staminibus perianthio duplo fere brevioribus, ovario 3-lobo, stigmate brevi trifido. (Tab. CXCVI.)

Hab. Nutka Sound, plentiful (*Menzies*); thence south to the Columbia and Cape Mendocina. *Douglas. Tolmie.*—A very distinct, small growing species: flowers of a full rose-colour, remarkable for the much acuminated and recurved apices of the sepals, giving the flowers somewhat the appearance of an *Uropetalon.*

Tab. CXCVI. *Fig.* 1, Flower; *f.* 2, Two sepals and stamens; *f.* 3, Pistil:—*magnified.*

6. *A. Douglasii;* bulbo late ovato foliis binis lanceolato-falcatis striatis basi longe angusteque attenuatis, umbella multiflora patente, sepalis (roseis) ovatis longe anguste

acuminatis carinatis rectis stamina subæquantibus, ovario trilobo, stylo integro.—*α.* foliis scapo brevioribus. (Tab. CXCVII.)—*β.* foliis scapo longioribus.

Hab. *α.* N. W. Coast, on the low hills. *Douglas.*—*β.* In the Snake country. *Tolmie.*—The flowers of this a good deal resemble the preceding in shape and colour, but the apex of the sepals is not recurved, the stamens are longer, and the leaves are totally different, being more than half an inch broad, in the dry state thick and somewhat coriaceous, indicating that in the recent plant they are thick and fleshy. Mr Douglas had marked it *A. fragrans;* but with the *fragrans*, Spreng. (*A. inodorum*, Gawl.), it has no sort of affinity whatever.

Tab. CXCVII. *Fig.* 1, Flower; *f.* 2, Sepals and stamens; *f.* 3, Pistil:—*magnified.*

7. *A. Schœnoprasum. L.—E. Bot. t.* 2241. *Rich. App. p.* 10.—A. Sibiricum. *L. Mant.?*

Hab. Canada. *Mrs Sheppard. Lady Dalhousie.* Throughout the woody country to Bear Lake (*Dr Richardson*), and to the Prairies of the Rocky Mountains. *Drummond.* Newfoundland. *Dr Morrison.* Walla-wallah and Wallamet Rivers, on the N. W. Coast. *Douglas. Tolmie.*—This seems to be a most abundant species in N. America, yet not noticed by Pursh or Nuttall. I do not see how *A. Sibiricum* is to be distinguished from the present.

8. *A. Canadense. L.—Ph. Am.* 1. *p.* 225.

Hab. Canada. *Pursh;* but I have never seen a specimen from British North America.

2. HESPEROSCORDON. *Lindl.*

Perianthium subcampanulato-rotatum, bifidum, cum pedicello articulatum. *Stamina* 6, fertilia, filamentis dilatatis membranaceis æqualibus, e fauce exortis, basi subconnatis. *Squamæ* hypogynæ 0. *Ovarium* sessile (?), 3-loculare, polyspermum, apice 3-glandulosum. *Stylus* teres, cum ovario articulatus. *Stigma* simplex. *Capsula* tri-locularis, 3-valvis, polysperma, valvis medio septiferis. *Semina* nigra, angulata, subcrustacea.—Herba (*Boreali-Americana*) *cormis induviatis.* Flores *umbellati. Lindl.*

1. *H. Lewisii;* umbella multiflora, floribus densis campanulatis laciniis apice patentibus.—H. hyacinthinum. *Lindl. Bot. Reg. sub fol.* 1293.—Brodiæa grandiflora. *Nutt. Gen.* 1. *p.* 215. (*non Sm.*) (Tab. CXCVIII. A.)

Hab. Plains of the Missouri. *M. Lewis.* N. W. America. *Menzies* (*in Herb. nostr.*). Plains of the Columbia, and to California. *Douglas.* Wallamet River. *Tolmie.*—I have changed the name of Dr Lindley, though unwillingly; because I think the colour is not "sky-blue;" at least the well-dried specimens have exactly the same colour as those of *H. lacteum*, Lindl. Bot. Reg. t. 1639; and I doubt very much if this latter plant, from California, be really anything more than a small and lax-flowered variety of the present. In both, the germen tapers very much at the base, and the fruit is really stipitate.

Tab. CXCVIII. A. *Fig.* 1, Flower; *f.* 2, The same laid open:—*magnified.*

3. CAMASSIA. *Lindl.*

Bulbus tunicatus. *Flores* cœrulei, v. purpurei. *Perianthium* explanatum, hexaphyllum, foliolis 5 superioribus ascendentibus, sexto decurvo. *Stam.* 6, hypogyna, æqualia; *filamenta* glabra ascendentia. *Ovarium* 3-loculare polyspermum. *Stylus* declinatus. *Stigma* obsolete 3-dentatum. *Capsula* chartacea, 3-locularis, 3-valvis, loculicido-dehis-

cens. *Semina* cuique loculo 6, subrotunda, nigra, nitida, *raphe* et *chalaze* corrugatis. *Lindl.*

1. *C. esculenta.*—*α.* floribus purpureo-cæruleis. *Lindl. Bot. Mag. t.* 1486.—Phalangium Quamash. *Ph. Am.* 1. *p.* 226.—P. esculentum. *Nutt.* (*in part; not Fraser.*)—*β.* floribus albis.—Scilla esculenta. *β.* fl. albo. *Hook. Bot. Mag. t.* 2774. (*not* Scilla escul. *Gawl. Bot. Mag. t.* 1574.)

Hab. N. W. America. Vallies of the Rocky Mountains. *M. Lewis.* Between the Mountains and the Pacific, from the parallel of 38° to 50° N.—This is assuredly a very distinct plant, both as to genus as well as species, from the *Silla esculenta*, Fraser, with which Pursh (in Bot. Mag. t. 1574) and Mr Nuttall confounded it, and led others to do so too. Both are eaten in their respective countries by the Indians, the present one by the Chenooks, who toast the roots on heated stones, and, when dried or compressed into cakes, they form a great article of consumption during the winter months.

4. TRITELEIA. *Hook.*

Perianthium tubulosum, subinfundibuliforme, marcescens. *Stam.* 6, duplici serie inserta: superioribus petalis oppositis. *Squamæ hypogynæ* nullæ. *Ovarium* sæpius stipitatum, raro sessile, polyspermum; *stigmate* trilobo.—Herbæ (*Austro- et boreali-Americanæ*) *cormis induviatis.* Flores *umbellati. Lindl.*

1. *T. grandiflora* (Lindl. *Bot. Reg. sub fol.* 1293); foliis linearibus glaucis scapo erecto bipedali brevioribus, involucro pedicellis æquali, pedicellis strictis perianthio infundibulari vix æqualibus, ovario breviter stipitato, filamentis 3 decurrentibus basi callosis, umbella pauciflora. (Tab. CXCVIII. B.)

Hab. Plains of the Columbia and Wallamet Rivers. *Douglas. Tolmie.*—I do not see how the *T. laxa* of Mr Bentham, in *Hort. Trans. v.* 1. *N. S. t.* 15. *f.* 2, *and Lindl. Bot. Reg. t.* 1685, (both of which figures accurately represent ours, the original species of the genus,) can be distinguished from the present. It is a beautiful plant, with the habit of the following genus.

5. BRODIÆA. *Sm.*

Perianthium tubuloso-campanulatum, sexfidum, persistens. *Stam.* 3, ad faucem et laciniis 3 int. opposita, cum squamis 3 (stam. abortivis) alternantia. *Ovarium* 3-gonum, basi attenuatum. *Stylus* filiformis. *Stigma* trifidum. *Capsula* obovata, stipitata, 3-locularis, loculicido-trivalvis. *Semina* cuique loculo 4-5, peltata.—Flores *umbellati.*

1. *B. grandiflora;* pedicellis umbellatis bracteas longe superantibus, squamis perianthii oblongis obtusissimis integris. *Sm. Linn. Trans. v.* 10. *p.* 2. *Bot. Reg. t.* 1183. *Bot. Mag. t.* 2877. (*non Ph., nec Nutt.*)—Brodiæa coronaria. *Salisb. Par. Lond. t.* 98.

Hab. N. W. America, New Georgia. *Menzies.* Puget Sound, and dry plains of the Wallamet and of the Columbia, west of the Rocky Mountains, to the Pacific Ocean. *Douglas. Dr Scouler. Tolmie. Dr Gairdner.*

2. *B. congesta* (Sm. *Linn. Trans. v.* 10. *p.* 3. *t.* 1); floribus subcapitatis, bracteis pedicellos superantibus, squamis perianthii lanceolatis acutis bifidis.

Hab. N. W. America; the same stations as the preceding. *Menzies. Douglas. Tolmie.*—The smaller

flowers, shorter limb, larger bracteas, and bifid scales at the mouth of the flower, readily distinguish this species from *B. grandiflora*, the only ones found in N. W. America.

Ord. XI. PONTEDERIACEÆ. *Kunth.*

1. PONTEDERIA. *L.*

1. *P. cordata. L.—Bot. Mag. t.* 1156. *Ph. Am.* 1. *p.* 223.

Hab. Canada. *Ph.* From Lake Huron (*Dr Todd*), to the Saskatchawan. *Dr Richardson. Drummond.*

2. LEPTANTHUS. *Mx.*

Spatha uniflora. *Perianthium* coloratum inferum, tubo longissimo gracili, limbo 6-partito æquali. *Stylus* apice incrassatus. *Capsula* unilocularis, trivalvis, polysperma. *Semina* receptaculis tribus filiformibus valvarum medio affixis inserta.—Herba *aquatica*, *foliis alternis gramineis stipulatis, floribus solitariis axillaribus.*

1. *L. gramineus. Mx. Am.* 1. *p.* 25. *t.* 5. *f.* 2. *Hook. Ex. Fl. v.* 1. *p.* 94. *t.* 94.—Heteranthera. *Vahl.—Ph. Am.* 1. *p.* 32.—Schollera graminifolia. *Willd.*—Commelina dubia. *Jacq. Obs. Bot. v.* 3. *p.* 9. *t.* 39.

Hab. Canada, growing with *Valisneria* and *Najas*, sent thence by *Mr Kippin* to the Glasgow Botanic Garden.

Ord. XII. RESTIACEÆ. *Br.*

1. ERIOCAULON. *L.*

1. *E. septangulare. With.* (*anno* 1801). *E. Bot. t.* 733. *Hook. Fl. Lond. N. S. t.* 52.—E. pellucidum. *Mich. Am.* 2. *p.* 166 (*anno* 1803).

Hab. Canada. *Michaux. Mrs Sheppard;* and to the Saskatchawan. *Dr Richardson. Drummond.* Newfoundland. *Dr Morrison.*—It is quite certain that this northern *Eriocaulon* of the New World, is the same as that found in the lakes of Scotland and Ireland in the Old World; the oldest name, therefore, must have the preference.

Ord. XIII. JUNCEÆ. *Juss.*

1. LUZULA. *DC.*

1. *L. melanocarpa* (Desv. *Journ. t.* 5. *f.* 2); caule elongato, foliis latis glabris, corymbo decomposito, pedunculis elongatis ramis 3-5 floris pedicellis unifloris, sepalis ovatis acutissimis capsula ovali-trigona obtuse mucronata longioribus. *Torr. Am.* 1. *p.* 366.—

Juncus melanocarpus. *Mx. Am.* 1. *p.* 190. *Ph. Am.* 1. *p.* 238. *Rich. App. p.* 11.—L. parviflora. *Desv.* (Juncus, *Retz.*) *Bong. Veget. Sitch. p.* 49.—*α.* floribus fuscis, capsulis intense badiis.—*β.* floribus capsulisque pallidis.

Hab. Canada (*Mx.*), and throughout the woody country to the prairies of the Rocky Mountains. *Dr Richardson.* Labrador. *Dr Morrison.* N. W. America, from the Columbia to Kotzebue's Sound. *Beechey. Bongard. Douglas. Dr Scouler.*—The pale flowered and pale fruited var. is found abundantly at the Columbia River, but is not confined to the west coast. I have received the same state from the White Hills of New Hampshire. Indeed very many of the *Luzulæ* and *Junci* vary in the same manner.

2. *L. pilosa. Willd.—Torr. Am.* 1. *p.* 365.—Juncus. *L.—Muhl. Gram. p.* 200. *E. Bot. t.* 736.—Luzula vernalis. *De Cand.*—*β.* floribus pallidis.

Hab. Canada (*Mrs Sheppard*), to the Saskatchawan. *Dr Richardson. Douglas.*

3. *L. campestris. Desv.—Torr. Am.* 1. *p.* 365.—Juncus. *L.—E. Bot. t.* 672. *Mich. Am.* 1. *p.* 190. *Ph. Am.* 1. *p.* 238.—*α. vulgaris;* florum glomerulis rotundatis densis cymoso-paniculatis intense fuscis.—*β. pallescens;* florum glomerulis rotundatis densis cymoso-paniculatis pallidis. L. pallescens. *Wahl.*—*γ. congesta;* floribus dense capitatis fuscis, capitulo solitario.—L. congesta. *Lej.—E. Bot. Suppl. t.* 2718.

Hab. Woody and barren country. *Dr Richardson.*—*α.* Newfoundland. *Mr Cormack.* New Brunswick. *Mr Kendal.* Kotzebue's Sound, Behring's Straits. *Beechey.*—*β.* Lake Winipeg, to the Saskatchawan, and prairies and Lake of the Woods, Rocky Mountains. *Drummond.*—*γ.* Bear Lake. *Dr Richardson.*

4. *L. comosa* (Meyer, *in Reliq. Hœnk. Fasc.* 2. *p.* 145); foliis planis pilosis, floribus spicatis distichis, spicis elongatis pedunculatis corymboso-paniculatis rarius subsessilibus, perianthii laciniis lanceolatis acuminato-subulatis interioribus brevioribus capsulam triquetro-ellipticam acutiusculam vix æquantibus.—L. campestris? *Bong. Veget. Sitcha, p.* 49.

Hab. N. W. America. Nutka Sound and Port Mulgrave. *Hœnke.* From the Rocky Mountains to the Pacific Ocean. *Douglas. Dr Scouler. Bongard?*—This seems to take the place of *L. campestris* on the west side of the Rocky Mountains. The elongated spikes of flowers, sometimes compact, sometimes remote, give the appearance of a *Carex* to this *Luzula.* I have from the White Mountains, New Hampshire, a var. of the pale-flowered *L. campestris,* very nearly approaching this, which nevertheless seems to be a good species.

5. *L. spicata. Desv.—Torr. Am.* 1. *p.* 366.—Juncus. *L.—E. Bot. t.* 1176.

Hab. Kotzebue's Sound, Behring's Straits. *Beechey.* Rocky Mountains. *Drummond.* Labrador. *Dr Morrison.*

6. *L. hyperborea* (Br. *Melv. Isl. Pl. p.* clxxxiii); spicis multifloris subumbellatis pedunculatis sessilibusque (nunc omnibus sessilibus), bractea umbella foliacea; partialibus omnibus fimbriatis, capsulis obtusis perianthium acutum subæquantibus, caruncula basilari seminis obsoleta, foliis planis. *Br.*—*α. major;* foliis angustioribus, bracteis partialibus insigniter albo-fimbriatis (an forma *L. campestr.?*). *Hook. in Parry's 2d Voy. App. p.* 405.—L. hyperborea. *Br. l. c.*—L. campestris. *Br. Spitzb. App. p.* 75.—Juncus arcuatus.

Hook. in Scoresb. Greenl. App. p. 410.—Juncus campestris. *Solandr. in Phipps' Voy.*—*β. minor;* foliis latioribus, bracteis partialibus vix fimbriatis. *Hook. l. c.*

Hab. *α.* and *β.* Arctic Sea-shore. *Dr Richardson;* and Arctic Islands. *Sir E. Parry*, &c.—*β.* Most elevated of the Rocky Mountains. *Drummond.*—The first variety, as I have stated in the Appendix to Sir Edward Parry's second voyage, is perhaps too near *L. campestris;* and the second var. almost seems to unite the first with the following; yet I think they are distinct.

7. *L. arcuata* (Hook. *Fl. Lond. N. S. t.* 153); foliis canaliculatis pilosis (pilis sæpe obsoletis), panicula subumbellata, floribus glomeratis, glomerulis 3-5-floris, pedunculis nutantibus, bracteis membranaceis fimbriatis, capsula ovato-globosa sepalis lato-lanceolatis breviori. *Hook. in E. Bot. Suppl. t.* 26. *Cham. et Schlecht. Linnæa*, 3. *p.* 375. *Hook. et Arn. in Bot. of Beech. p.* 131.—*β. major;* spithamæa et ultra.

Hab. N. W. America. Kotzebue's Sound. *Chamisso. Beechey.* Summit of Mount Rainier. (var. *β.*) *Tolmie.* Summits of the Rocky Mountains. *Drummond.*—The Mount Rainier specimens are much larger than our European *L. arcuata*, and than that from the Rocky Mountains, and the leaves are broader, and the flowers deeper brown; they seem to connect the species with *L. spadicea.*

2. JUNCUS. *De Cand.*

1. *J. arcticus* (Willd.); repens aphyllus, scapo tereti lævi opaco rigidiusculo apice pungente, florum fasciculo laterali sessili, perianthii laciniis ovato-lanceolatis acutis capsula elliptica trigona mucronata brevioribus. *Svensk. Bot. t.* 479. *f.* 5.—J. compressus. *β.* Hœnkei. *Meyer in Herb. Hook. et in Reliq. Hœnk. Fasc.* 2. *p.* 141.—J. Hœnkei. *Meyer Syn. Junc. p.* 10.—*β. gracilis;* floribus subterminalibus paucis 1-3. J. platycaulos. (*H. B. K.*) *β.* aphyllus. *E. Meyer in Herb. nostr.*

Hab. Arctic Sea-coast. *Dr Richardson.* Point Mulgrave, in Behring's Straits. *Hœnke.*—*β.* At a great elevation on the Rocky Mountains. *Drummond.*—My specimens have been named *J. compressus* (H. B. K.), *β. Hœnkei* of Meyer, by the learned Meyer himself; but they correspond so exactly with the true *J. arcticus*, from Lapland, and Iceland, and Greenland, that I cannot entertain a doubt of this being the same. As it is a very arctic or very alpine species, I have omitted one of the two stations given by Hœnke, his "*Nutka-Sund vel Portu Mulgrave.*"—*β.* has very few flowers to each slender culm, and those generally near the apex, which thus seems to form a bractea.

2. *J. Balticus* (Willd.); repens aphyllus, scapo tereti lævi opaco rigido apice pungente, floribus paniculatis, panicula brevi laterali, perianthii laciniis subæqualibus ovato-lanceolatis acutis longitudine capsulæ ellipticæ mucronatæ. *Hook. in E. Bot. Suppl. t.* 2621.—J. arcticus. *Hook. Fl. Lond. N. S. t.* 151. (*non Willd.*)—J. compressus. (*H. B. K.*) *Cham. in Linnæa*, 6. *p.* 369. *et in Herb. nostr.* (*non Jacq.*)—J. complanatus. *Schult.*—*β. laxa;* panicula bi-triunciali valde ramosa laxa.—J. glaucus. *Rich. App. p.* 11.

Hab. Unalaschka. *Chamisso.* N. W. America. *Menzies.* Saskatchawan River, near the mountains. *Douglas.* Slave Lake. *Dr Richardson.*—*β.* Throughout Canada to the Saskatchawan. Labrador. *Dr Morrison.*—A taller and more harsh and rigid plant than the preceding, with the fascicles of flowers on branched peduncles, so as to constitute a panicle.—This, which is also Chamisso's *J. compressus*, H. B. K. (Herb. nostr.), is unquestionably the same plant as the *J. Balticus* of England and Sweden.—The *β.* is a very remarkable variety, with a much larger and looser panicle, and remote flowers. It does not seem to

bear fruit, and is perhaps a morbid state of the plant. Its quite smooth stems, and deep-coloured flowers, readily distinguish it from all forms of *J. effusus* and *glaucus*.—The very sportive character of this and the preceding species, as shown in the present collection, almost induce me to return to my former opinion, that they are not really distinct.

3. *J. effusus. L.—E. Bot. t.* 836. *Ph. Am.* 1. *p.* 236.—β. *gracilis;* panicula minore.

Hab. Canada. *Mrs Sheppard. Mrs Percival.* Newfoundland.—β. N. W. Coast. Columbia. *Douglas. Dr Scouler.*—β. is a very slender plant, and with a few-flowered panicle; but the flowers and fruit are the same as in α.

4. *J. filiformis* (L.); repens aphyllus, scapo gracili filiformi tenuiter striato flaccido, panicula subsimplici laterali versus medium scapi, sepalis unicoloribus pallidis suæqualibus lanceolatis capsula obovata mucronata nitida pallida parum longioribus. *E. Bot. t.* 1173. *Ph. Am.* 1. *p.* 236? *not Mx.*—J. Pylæi? *De la Harpe in Mem. Soc. H. N.* 3. *p.* 119.

Hab. Saskatchawan to Bear Lake and English River. *Dr Richardson. Drummond.*—The *J. filiformis* of Pursh is probably the *J. setaceus,* Rostkow, a different species, according to specimens from Dr Torrey, gathered in Middle Florida; being a larger and harsher plant, with very rigid glossy sepals, spreading nearly horizontally around the almost depresso-globose mucronated capsule. I have excellent specimens, however, of the true *J. filiformis,* from the United States, gathered by Mr Greene on the White Hills, New Hampshire. It seems, therefore, in America, to be an alpine or very northern species.

5. *J. acutiflorus* (Ehrh.); caule erecto foliisque subcompressis articulatis, panicula terminali decomposita, capitulis 5-6-floris, sepalis inæqualibus lanceolatis acutis capsulam anguste ovatam subacuminatam æquantibus. *E. Bot. t.* 2143.—J. pelocarpus. *Meyer Syn. p.* 30. *et in Herb. nostr.*—β. *minor;* capitulis 1-2-floris.—J. Canadensis? *Gay.*—*Schult. Syst. Veg.* 2. *p.* 211.?

Hab. Canada, to the Slave Lake, and to the marshy ground in the Rocky Mountains. *Dr Richardson. Drummond.*—β. Canada. *Dr Richardson. Mrs Sheppard.*—I am quite unable to distinguish this American *Juncus* from our European *J. acutiflorus.* The whole habit of the plant, the flowers, and the fruit, are the same. It is also nearly allied to *J. lampocarpus,* but that has larger flowers and capsules, and the latter especially of a much darker colour. The var. β. is a smaller plant, and has the capitula very few-flowered.

6. *J. polycephalus* (Mich. *Am.* 1. *p.* 192); caule erecto foliisque subcompressis articulatis, panicula terminali decompósita, capitulis majusculis multifloris densissimis globosis, floribus triandris? sepalis subæqualibus lanceolatis acutissimis rigidis capsulam oblongo-lanceolatam acutam triquetram nitidam æquantibus. *Ph. Am.* 1. *p.* 237. *Torr. Am.* 1. *p.* 364.—J. paradoxus? *E. Meyer.—Bong. Veg. Sitcha, p.* 49.—J. nodosus. *L.?*—α. *crassifolius;* major, foliis multo crassioribus et conspicue compressis. *Mich. l. c.—subvar.* 1. *macrocephalus;* capitulis paucis magnitudine fere *nucis Avellanæ.* J. globosus. *Herb. Banks.—subvar.* 2. capitulis mediocribus numerosis.—β. *tenuifolius;* minor gracilior, foliis subfiliformibus. *Mich. l. c.* J. echinatus. *Muhl.—Rich. App. p.* 11.—J. nodosus. *Torrey. Am.* 1. *p.* 361.—J. Roskowii. *E. Meyer Syn. p.* 26. *et in Herb. nostr.*—J. macrostemon? *Gay in Schult. Syst. Veg. v.* 7. *p.* 216.—γ. *pumilus;* subdigitalis gracillimus, capitulis paucis 1-3.

Hab. α. N. W. Coast, frequent. *Douglas.*—β. Canada, to Bear Lake. *Drummond. Dr Richardson.*—γ. Moist woods in the Rocky Mountains. *Drummond.*—Readily known in its various states by the dense and globose capitula, and the narrow, sharp, rigid sepals. The name *echinatus* would have been very appropriate to this species.

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7. *J. ensifolius* (Wikstr. *Act. Holm.* 1825. *p.* 1); caule compresso erecto folioso, foliis lineari-acuminatis ensiformibus (lateraliter planis) articulatis subflaccidis caulem floriferum subæquantibus, capitulis terminalibus plerumque solitariis subglobosis multifloris, floribus densissime compactis, bractea exteriori foliacea basi membrancea capitulum plerumque superantibus, sepalis lanceolatis acuminatis nitidis capsulam ellipticam mucronatam æquantibus.—α. *minor;* capitulo solitario. *Cham. et Schlecht. Linnæa,* 3. *p.* 373. (*et in Herb. nostr.*)—J. Mertensianus. *Bong. Veget. Sitcha, p.* 49. (*et in Herb. nostr.*)—J. falcatus. *E. Meyer.* (*fide E. Meyer in Herb. nostr.*)—β. *major;* capitulis geminis ternisve etiam subpaniculatis.

Hab. N. W. America. Sitcha (*Bongard*), to Unalaschka. *Chamisso.* Alpine swamps of the Rocky Mountains, north of the Smoking River. *Drummond.*—β. Sources of the Columbia River, in the Rocky Mountains.—An extremely interesting plant, with the leaves, in the dried state at least, flattened at the sides, and thus ensiform as in *Iris* and *Sisyrinchium;* this, however, may in some measure be owing to pressure, and some of the more luxuriant specimens, in their inflorescence, approach the preceding species; though the usual form of the plant so nearly resembles *J. castaneus,* that Drummond marked it as probably a variety.

8. *J. uliginosus* (Sibth.); caule erecto v. decumbente sæpe radicante foliisque setaceis obscure articulatis panicula subsimplici irregulari, capitulis pauci- v. pluri-floris, sepalis oblongis æqualibus subacutis capsulam ellipticam æquantibus. *E. Bot. t.* 801.—α. *minor;* erectus, floribus intense fuscis.—J. fusco-ater. *Schreb.* (*fide E. Mey., in Herb. nostr.*)—J. bulbosus. *L.*—J. alpinus. *Vill.*—β. *subtilis;* caule radicante, floribus subbinis.—J. subtilis. *Meyer Syn. p.* 31.—J. fluitans. *Mx.*

Hab. α. Arctic Sea-coast. *Dr Richardson.*—β. Canada. *Bosc.*—These specimens send out copious radicles, chiefly from the base of the plant. The stems are 3-5 inches high, erect. Panicle very little branched, with very few, 2-4 capitula, and these few-flowered.

9. *J. Richardsonianus* (Schult. *Syst. Veg. v.* 7. *p.* 201); "foliis subulatis nodoso-articulatis, paniculis paucifloris (3-5-floris), capsulis ovalibus calyce obtuso hexandro longioribus." *Brown in Rich. App. p.* 11. *sub nom.* J. affinis. (*non Gaud.*)

Hab. Woody country to the Mackenzie River. *Dr Richardson.*—I am not acquainted with this plant. Perhaps I may have included it under *J. acutiflorus* (*J. pelocarpus,* Meyer).

10. *J. bufonius. L.—E. Bot. t.* 802. *Ph. Am.* 1. *p.* 238.

Hab. Throughout Canada to Bear Lake. *Dr Richardson. Drummond.* N. W. Coast, abundant. *Dr Scouler. Douglas.*

11. *J. tenuis. Willd.—Ph. Am.* 1. *p.* 228.—J. gracilis. *E. Bot. t.* 1724.—J. bicornis. *Mx.—Ph.*

Hab. Lake Huron, to Bear Lake, and from Hudson's Bay to the sources of the Columbia in the Rocky

Mountains. *Dr Richardson. Drummond.*—This is a well marked species, though allied to *J. bufonius*, and it seems most abundant throughout N. America. The leaves are slender, setaceous, several from the root. *Stem* from 8 inches to 2 feet, slender, but rigid, bare of leaves up to the panicle near the top, where is one leaf immediately beneath the foliaceous bracteas. In the axils of the forks of the dichotomous panicle are 2 or 3 large nearly sessile flowers, and 2 or 3 unilateral ones, from the upper or inner side of the branches, the under or outer side being bare of flowers. Sepals green, with white, membranous margins.

12. *J. castaneus* (Sm.); caule erecto tereti folioso, foliis supra canaliculatis subtus teretibus (siccitate planis), capitulis plurifloris subbinis sessilibus v. pedunculatis bracteis majoribus foliaceis capitulis longioribus, floribus sessilibus v. pedicellatis, capsulis ovali-trigonis sublonge mucronatis perianthium superantibus. *E. Bot. t.* 90. *Rich. App. p.* 11. *Cham. et Schlecht. Linnæa*, 3. *p.* 374.—*α.* floribus capsulisque intense fuscis.—*β.* floribus capsulisque pallidis.—J. Lehmanni. *E. Meyer in Herb. nostr.*

Hab. York Factory, Hudson's Bay; Edmonton House Fort, on the Saskatchawan, to the Rocky Mountains. *Drummond;* and to Bear Lake. *Dr Richardson.* N. W. Coast, from Unalaschka to Kotzebue's Sound. *Chamisso. Beechey.*

13. *J. Menziesii* (Br. *in Herb. Banks*); caule erecto tereti folioso, foliis lineari-acuminatis supra canaliculatis, capitulis terminalibus globosis 1-3, bractea exteriori plerumque foliacea et capitula superantibus, sepalis lato-ovatis obtusis capsulam obovatam nitidam muticam æquantibus.

Hab. N. W. Coast of America. *Menzies, in Herb. Banks.* Common near the confluence of the Columbia, and thence to Puget Sound. *Douglas.*—A span to nearly a foot high, the stem rigid, the leaves slightly so. Heads of flowers generally too large. Sepals unusually broad.—A very distinct species, with the habit of the preceding.

14. *J. biglumis* (L.); foliis radicalibus lineari-subulatis compressis (non canaliculatis) basi in vaginam sensim dilatatis, capitulo terminali bifloro flore altero pedicellato plerumque involucro foliaceo breviore, capsula turbinata retusa sepalis obtusis longiori. *E. Bot. t.* 898. *Cham. et Schlecht. Linnæa*, 3. *p.* 374.

Hab. Arctic Sea-coast and Islands. *Dr Richardson. Sir E. Parry. Mr Edwards.* Rocky Mountains, north of the Smoking River. *Drummond.* Bay of Good Hope, Behring's Straits. *Chamisso.*

15. *J. triglumis* (L.); foliis radicalibus lineari-subulatis canaliculatis bitubulosis vaginis supra auriculatis, capitulo terminali 3-floro bracteam membranaceam æquantibus, capsula elliptica acuta sepalis obtusis longiori. *E. Bot. t.* 148.

Hab. Arctic Sea-coast. *Dr Richardson.* Alpine swamps in the Rocky Mountains. *Drummond.*

Ord. XIV. HYDROCHARIDEÆ. *Br.*

1. VALISNERIA. *L.*

1. *V. spiralis. L.*—V. Americana. *Mx.—Ph. Am.* 1. *p.* 602.

Hab. Canada.—Living plants were sent from near Montreal, by *Mr Kippin*, to the Glasgow Botanic Garden, where we had the opportunity of examining flowering specimens, and ascertaining that they were the same as the European species.

2. UDORA. *Nutt.*

Dioica. *Spatha* bifida. Masc. *Cal.* 3-partitus. *Cor.* 3-petala. *Stam.* 9, 3 interiora.—Fœm. *Cal.* 3-partitus, tubo longissimo. *Pet.* 3. *Filamenta* sterilia 3. *Utriculus* subtrispermus. *Semina* cylindrica. *Nutt.*—*Herba aquatica, foliis verticillatis.*

1. *U. verticillata. Spreng.*—Udora Canadensis. *Nutt. Gen. Am.* 2. *p.* 242. Elodea. *Mx.* Serpicula verticillata, *L.*—*Muhl.*—S. occidentalis. *Ph.*

Hab. Canada, (*Michaux. Cleghorn. Goldie.*) to the Saskatchawan. *Dr Richardson. Drummond.*—I have retained the name of *verticillata* to this, originally given to an East Indian *Udora*, from a conviction, as far at least as can be conveyed by the dried specimens, that the plants of the Old and of the New World are the same species. It extends throughout the whole continent of America, from the lat. of York Factory, Hudson's Bay, in the north, to Buenos Ayres and Valparaiso in the south. The leaves vary much in size and direction, so that probably the *U.* (*Elodea*) *Granatensis*, and *U. Orinocensis* of Humboldt and Kunth, are mere varieties. Certainly my specimens from British Guiana are the same as those from Canada.

Ord. XV. ORCHIDEÆ.* *Juss.*

§ I. Malaxideæ. *Lindl.*

1. MICROSTYLIS. *Nutt. Lindl.*

1. *M. monophyllos* (Lindl. *Gen. Orch. p.* 19.); caule unifolio, racemo gracili elongato, pedicellis flores æquantibus.—*Lindl.*—M. brachypoda. *Gray, Mss. in Herb. nostr.*—Malaxis monophyllos. *Willd.*—Ophrys. *L.*

Hab. Near Montreal. *Goldie in Herb. nostr.* Halifax. *Goldie* (ex Lindl.)—A very distinct species from the following, (a European plant,) and first found in N. America by Goldie, and since by Drs Torrey and Gray, in the United States, at Oneida county, New York.

2. *M. ophioglossoides* (Nutt.); caule unifolio, racemo obtuso capitato multifloro, pedicellis flores longe superantibus, labello tridentato.—*Lindl. Bot. Reg. t.* 1290. (var. β.) *Gen. Orch. p.* 19. Malaxis ophiog. *Ph. Am.* 1. *p.* 592. *Loddig. Bot. Cal. p.* 1116. M. unifolia. *Mx.*

Hab. Canada, to the Saskatchawan. *Dr Richardson.* Newfoundland. *Dr Morrison.* Nova Scotia. *Menzies.*

3. *M. diphyllos* (Lindl. *Gen. Orch. p.* 19.); foliis duobus ovatis lanceolatisve acutis lævibus, scapo triquetro, labello subrotundo acuminato acumine lacinias haud superante. —Malaxis diphyllos. *Cham. in Linnæa,* 3. *p.* 34.

Hab. Unalaschka. *Chamisso.*—This is equally unknown to me as it is to Dr Lindley.

2. LIPARIS. *Rich.*

1. *L. liliifolia* (Rich.); foliis binis oblongis acutis plicatis racemo paucifloro multo

* I have followed entirely the arrangement of Dr Lindley, to whose invaluable *Genera and Species of Orchideous Plants* I refer for the characters of the Genera, so far as that work is published.

brevioribus, scapo angulato, labello maximo obovato mucronato recurvo discolore, sepalis linearibus patentissimis. *Lindl. Bot. Reg. p.* 882. *Gen. Orch. p.* 28. Malaxis, *Sw.*—*Ph. Am.* 2. *p.* 592. *Bot. Mag. p.* 2004.—Ophrys, *L.*

Hab. Canada. *Ph.*

2. *L. Loeselii* (Rich.); foliis binis ovato-oblongis obtusis plicatis racemo paucifloro multo brevioribus, scapo angulato, labello ovato integerrimo concolore, sepalis petalisque linearibus inæqualibus. *Lindl. Gen. Orch. p.* 28, *in Bot. Reg. t.* 882. Malaxis, *Sw.*—M. Correana. *Benth.*—*Nutt. Am.* 2. *p.* 196. Liparis, *Spr.*—Ophrys Loeselii. *L.*

Hab. Canada, (*Goldie*) to Carlton House Fort, on the Saskatchawan. *Dr Richardson.*—The *L. Correana* differs in no respect from our European *L. Loeselii.* The American plant is indeed often much larger, (I have specimens more than a span high,) but Dr Richardson's specimens do not exceed ours.

3. CORALLORHIZA. *Br.*

1. *C. innata* (Br.); scapo pauci (6-9-) floro, floribus parvis, labello oblongo subintegro, calcare ovario adnato obsoleto.—*Hook. in Fl. Lond. N. S. t.* 142. *Rich. App. p.* 33.—C. odontorhiza. *Nutt. Gen.* 2. *p.* 197.—C. Wisteriana. *Conrad in Journ. Acad. Phil.* 6. *p.* 145. Cymbidium. *Ph.*—*β. labello immaculato.* Corallorhiza verna. *Nutt.*—*Journ. Ac. Nat. Phil.* 3. *p.* 136. *t.* 7.—C. innata. *Eat.*

Hab. Lake Huron, (*Dr Todd*) throughout Canada, (*Cleghorn, Mrs Sheppard,*) to the Saskatchawan. *Dr Richardson. Drummond. Douglas.* Newfoundland. *Miss Brenton.*—Copious specimens which I possess of this plant, from the above localities, precisely accord with our European *C. innata.* A small slender species, about a span high.

2. *C. multiflora* (Nutt. *Journ. Ac. Nat. Phil.* 3. *p.* 138. *t.* 7.); scapo multi-(15-30)-floro, labello cuneato-ovali tripartito recurvo maculato, calcare tuberculiformi ovario adnato. *Hook. Exot. Fl. t.* 174. C. innata. *Nutt. Gen.* 2. *p.* 197. (*fide Nuttall.*).

Hab. Canada. *Cleghorn. Dr Todd. Mrs Sheppard. Lady Dalhousie.* New Brunswick. *Mr Kendall.* Columbia and Observatory Inlet. N. W. America. *Douglas* and *Dr Scouler.*—Much larger and stouter than the preceding, with which it had been confounded by Nuttall; a foot and more high, with more numerous flowers, and an evident spur, but adnate with the ovary.

3. *C. Mertensiana* (Bong. *Veg. Sitcha, p.* 47.); scapo multi-(10-20)-floro, labello ovato-oblongo subemarginato, prope basin dente incurvo utrinque instructo, calcare subelongato omnino libero.

Hab. N. W. America. Sitcha, *Bongard.* Fort Vancouver and Nusqually. *Dr Scouler* and *Tolmie.*—Habit and size of the preceding, yet very different. It is generally more slender, the sepals and petals much narrower; but the most distinguishing feature is the very evident spur to the base of the lip, not at all adnate with the ovary.

4. AMPLECTRUM. *Nutt. Lindl.*

1. *A. hyemale* (Nutt. *Journ. Acad. Phil. p.* 139). Corallorhiza hyemalis. *Nutt. Gen.* 2. *p.* 198. Cymbidium, *Willd.*—*Ph. Am.* 2. *p.* 593.

Hab. Between Norway House and Cumberland House Fort, on the Saskatchawan, *Drummond;* rare, and with fruit and good foliage; but no flower.—Flowers similar to those of *Corallorhiza.* Root tuberous, with a single elliptical leaf from the summit of the tuber, the scape springing from beneath. This is doubtless the northern limit of this fine Orchideous plant; but it does not appear to have been found in Canada.

§ II. Vandeæ. *Lindl.*

5. CALYPSO. *Salisb.*

1. *C. borealis.* Salisb. *Par. Lond. t.* 89. *Hook. Ex. Fl. t.* 12. *ejusd. Bot. Mag. p.* 2763. *Ph. Am.* 2. *p.* 593. C. Americana. *Br.—Nutt.*—Limodorum. *Willd.*—Cypripedium bulbosum. *L.*

Hab. Canada to Bear Lake River. *Cleghorn. Goldie. Dr Richardson*; and from Hudson's Bay (*Douglas*), to the Rocky Mountains. *Drummond.* Nova Scotia. *Menzies.* N. W. America. *Mr Lewis. Menzies. Douglas. Tolmie.*

§ III. Ophrydeæ. *Lindl.*

6. ORCHIS. *L. Br. Lindl.*

1. *O. spectabilis* (L.); foliis binis oblongis obtusis scapi longitudine, bracteis foliaceis floribus longioribus, labello lanceolato calcari clavato pendulo æquali. *Lindl. Gen. Orch. p.* 267. *Ph. Am.* 2. *p.* 587. *Hook. Ex. Fl. p.* 69. O. humilis. *Mx.*—Habenaria. *Spr.*

Hab. Throughout Canada. *Dr Todd. Lady Dalhousie. Goldie.*—This is the only true Orchis found in Eastern N. America.

2. *O. aristata* (Fisch. *mst. in Herb. nostr.*); foliis ovato-lanceolatis acutis caule subdiphyllo longioribus, spica ovata densiflora, sepalis acuminatissimis, labello ovato acuto lævissime versus apicem trilobo lateribus deflexo, calcare crasso pendulo labello longiore, bracteis herbaceis acuminatis floribus longioribus, tuberibus palmatis. *Lindl. Gen. Orch. p.* 262. O. acuminata. *Hort. Gor.* (*Herb. nostr. ex Acad. Imp. Petersb.*) non Desf.—O. latifolia. *L.?* var. Beeringiana. *Cham. in Linnæa, v.* 3. *p.* 26.

Hab. Unalaschka. *Chamisso.*—This is rightly separated by Dr Fischer from *O. latifolia.*

7. GYMNADENIA. *Br. Lindl.*

1. *G.* (*?*) *tridentata* (Lindl.); folio solitario radicali oblongo obtuso, caulinis 2-3 multo angustioribus et minoribus, spica brevi laxiuscula, sepalis campanulatis, labello plano truncato obsolete tridentato (nunc integro obtusiusculo) sepalorum longitudine, calcare filiformi arcuato ovario paulo longiore. *Lindl. Gen. Orch. p.* 227. Habenaria trid. *Hook. Ex. Fl. p.* 81. Orchis trid. *Willd.—Ph. Am.* 2. *p.* 587.—*β. labello integro.*—Orchis clavellata. *Mx. Am.* 2. *p.* 155. *Ph. Am.* 2. *p.* 586.—*γ. folio lineari-oblongo, caule elatiori* (labello integro). Platanthera tipuloides. *Lindl. Gen. Orch. p.* 285. Orchis tipuloides. *L.*—O. gracilis. *Fisch.*

Hab. Canada. *Goldie. Mrs Sheppard. Mrs Perceval.*—*β.* Newfoundland. *Miss Brenton.*—*γ.* Lake Huron. *Dr Todd.*—The base of the cells of the anthers are by no means so approximate as in the original

Gymnadenia of Mr Brown, *G. conopsea.* It is not unfrequent to find the lip quite entire, and more or less acute, and the narrow-leaved var. of this, is, as it appears to me, the *Platanthera tipularioides* of Lindl. ***Orchis gracilis, Fisch. in Herb. Hook.***

8. PLATANTHERA. *Rich. Lind.*

1. *Labellum indivisum, subintegerrimum.*

1. *P. obtusata* (Lindl.); folio solitario oblongo-obovato, caule monophyllo, spica laxiuscula, sepalo supremo latissimo, petalis subtriangularibus acuminatis obtusis, labello lineari-subacuminato basi bituberculato calcaris conici arcuati acuti longitudine. (Tab. CXCIX.) *Lindl. Gen. Orchid. p.* 284. Habenaria, *Rich. App. p.* 33. Orchis, *Ph. Am.* 2. *p.* 284.

Hab. Nova Scotia. *Menzies.* Canada. *Mrs Perceval. Mrs Sheppard* (at Cape Torment), to Carlton House Fort, on the Saskatchawan and alpine swamps of the Rocky Mountains, and thence to Bear Lake and Fort Franklin. *Dr Richardson. Drummond.* Labrador. *Dr Morrison.* N. W. Coast. *Menzies. Douglas.* Kotzebue's Sound. *Beechey.*

Tab. CXCIX. *Fig.* 1. Side view of a flower; *f.* 2. Front view of do.; *f.* 3. Upper sepal; *f.* 4. Petal; *f.* 5. Anther.

2. *P. elegans* (Lindl. *Gen. Orch. p.* 285); foliis binis oblongo-lanceolatis, caule squamis parvis ramentaceis, spica longa densa cylindracea, bracteis lineari-subulatis florum longitudine, sepalis campanulatis acuminatis obtusis, petalis labelloque carnosis ovato-linearibus obtusis subæqualibus, calcare filiformi arcuato ovario longiore. *Lindl.*

Hab. N. W. America. Vallies of the Blue Mountains. *Douglas.* Fort Vancouver. *Tolmie.*—Flowers white and fragrant. Root an undivided tuber. Stem a foot and a half high. Flowers small. Pollen-glands very large.

3. *P. Hookeri* (Lindl. *Gen. Orchid. p.* 286); foliis radicalibus binis suborbiculatis carnosis, scapo nudo, spica stricta multiflora, sepalo superiori ovato lateralibus lanceolatis reflexis, labello lanceolato acuminato glabro sepalis parum longiore, calcare subulato arcuato compresso ovario duplo longiore, anthera triangulari angulis basi obtusis.—Habenaria orbiculata. *Hook. Ex. Fl. t.* 145. (*non Pursh*). Habenaria Hookeri. *Torrey, Herb.—Gray, New or rare plants, St. of New York, p.* 229.

Hab. Upper and Lower Canada. *Dr Todd. Goldie. Lady Dalhousie. Drummond.*

4. *P. orbiculata* (Lindl. *Gen. Orchid. p.* 286); foliis radicalibus binis suborbiculatis (ovalibusve) tenui-membranaceis, scapo bracteato, racemo laxo multifloro, sepalo superiori orbiculari lateralibus ovatis, labello lineari-subspathulato basi pubescente sepalis fere duplo longiore, calcare arcuato compresso clavato ovario duplo longiore, antheræ lobis basi utrinque productis liberis. (Tab. CC.)—Orchis orbiculata. *Ph.* Habenaria, *Torr. Compend. p.* 318.—H. macrophylla. *Hook. in Ed. Phil. Journ. v.* 6. *p.* 331. *Gray, New or rare Pl. St. of New York, p.* 228.

Hab. Canada. In moist shady woods. Island of Montreal. *Mr Goldie. Lady Dalhousie. Mrs Perceval;* to the Saskatchawan. *Drummond.*—This fine species, having been but ill defined by its first describer (*Pursh*), has been much misunderstood, and the preceding plant was by myself, as well as by other botanists, both in America and in Europe, mistaken for it. From collateral evidence, however, Drs Torrey and Gray were led to consider the present as the true *orbiculata;* and the correctness of their ideas has been confirmed by the latter botanist, on his recent examination of the original *Purshian Herbarium*, in Mr Lambert's possession, whereupon he writes :—" *Orchis orbiculata*, Pursh, is, as I suspected, the *macrophylla* of Hook. and Goldie. The other species, *orbiculata* of Hook. (*Hookeri* nobis) is not in Pursh's original *Herbarium;* but it exists in the Canadian Collection of Pursh, without a name." The latter plant has been correctly figured already in the *Exotic Flora;* which, together with our accompanying plate of the present species, will, I trust, clear up all future difficulty on the subject of these two species.

Tab. CC. *Fig.* 1. Flower; *f.* 2. Side view of an anther :—*magnified.*

5. *P. Menziesii* (Lindl. *Gen. Orch. p.* 286); foliis radicalibus binis subrotundo-oblongis erectis, caule sub-bisquamato, racemo laxo paucifloro, sepalis obtusissimis, petalis truncatis labello lineari obtuso brevioribus, calcare pendulo obtuso apice inflexo ovario subæquali. *Lindl.*

Hab. N. W. Coast of America. *Menzies.* (*Herb. nostr.*)—Scape about a span high.

6. *P. Schischmareffiana* (Lindl. *Gen. Orch. p.* 286); foliis radicalibus binis obovato-lanceolatis canaliculatis, spica subsecunda multiflora, bracteis oblongis obtusis ovarii longitudine, sepalis oblongis obtusis, petalis labelloque carnosis ovatis obtusis, calcare arcuato gracili labelli longitudine. *Lindl.* Habenaria, *Cham. in Linnæa*, 3. *p.* 29. Spiranthes? Unalaschkensis. *Spr.*

Hab. Unalaschka. *Chamisso* (*in Herb. nostr.*)

7. *P. Königii* (Lindl. *Gen. Orch. p.* 286); caule folioso, foliis inferioribus oblongo-lanceolatis obtusis emarginatisque superioribus linearibus spicam fere æquantibus, spica densa cylindracea, bracteis herbaceis floribus æqualibus, labello subrhombeo-lineari obtuso calcare inflexo obtuso longiore. *Lindl.*—*α. petalis ovatis acutis.* O. Königii. *Retz.*—*Fl. Dan. t.* 333.—*β. petalis cordatis acuminatis.* O. dolichorhiza. *Fisch. ms.*

Hab. *β.* Unalaschka. *Langsdorff.*

8. *P. herbiola* (Lindl. *Gen. Orch. p.* 287); caule folioso, foliis inferioribus oblongis acutis superioribus lanceolatis acuminatis, spica densa cylindracea, bracteis herbaceis acuminatis floribus longioribus, labello lineari-lanceolato basi bidentato medio unituberculato calcare clavato duplo breviore. *Lindl.*—Habenaria. *Br.*—Orchis. *Ph. Am.* 2. *p.* 574.—O. fuscescens. *Ph.*—O. scutellata? *Nutt.* (*fide Lindl.*).

Hab. Between Norway House and Canada. *Dr Richardson. Drummond.* The tubercle upon the lip is very prominent, and affords a remarkable character.

9. *P. hyperborea* (Lindl. *Gen. Orch. p.* 287); caule folioso, foliis lanceolatis strictissimis acutis, spica laxiuscula subsecunda, bracteis lineari-lanceolatis acutis flore longiori-

bus, sepalis deflexis, petalis labelloque linearibus obtusis subæqualibus calcaris obtusi penduli longitudine, radicibus longissimis carnosis. *Lindl.* Habenaria hyperborea. *Br.* —*Rich. App.* 2. *p.* 33. Orchis. *L.*—*Ph.*

Hab. Rare in Canada. *Dr Todd.* From the Saskatchawan to Fort Franklin. *Dr Richardson. Drummond.*

10. *P. dilatata* (Lindl. *Gen. Orchid. p.* 287); caule folioso, foliis lanceolatis gramineisve, spica elongata cylindracea densa laxaque, bracteis lineari-lanceolatis acuminatis floribus æqualibus longioribusque, sepalis ovatis obtusis, petalis minoribus conformibus membranaceis, labello rhomboideo lineari-lanceolato obtuso calcaris obtusi longitudine. *Lindl.* Habenaria. *Hook. Ex. Fl. t.* 95.—*Gray, New or rare Pl. St. of N. York, p.* 231. —Orchis. *Ph. Am.* 2. *p.* 588.—Habenaria borealis. *Cham. in Linnæa.* 3. *p.* 28.—Orchis agastachys. *Fisch. mst.*—β. *angustifolia;* caule gracili.

Hab. Newfoundland. *Miss Brenton.* Throughout Canada, from Lake Huron to the Saskatchawan, and Hudson's Bay, abundant. N. W. America, about Fort Vancouver. *Douglas. Tolmie. Dr Scouler.*—β. Canada. *Cleghorn.*—I fear that this, which is a very common and highly variable plant, especially as regards its lax or dense growth, and size of the flowers and bracteas, and the breadth of the leaves, is only a luxuriant state of *P. hyperborea*, to which Dr Richardson has rightly referred his more northern plant. It seems probable also that *P. Königii* and *P. Huronensis* are too nearly allied to it.

11. *P. Huronensis* (Lindl. *Gen. Orch. p.* 288); caule folioso, foliis inferioribus oblongis superioribus gramineis, spica laxa tenui, bracteis acuminatis florum longitudine vel longioribus, labello ovato-lanceolato calcaris incurvi compressi longitudine. *Lindl.*—Habenaria, *Spr.*—Orchis, *Nutt.*

Hab. Lake Huron and Michigan. *Nuttall.* Quebec. *Mrs Sheppard.* Newfoundland. *Miss Brenton.* —Dr Lindley well observes of this, "*P. dilatatæ* et *P. boreali* proxima, sed flores fere minores quam in *P. herbiola.*"

12. *P. leucostachys* (Lindl. *Gen. Orch. p.* 288); caule folioso, foliis oblongo-lanceolatis obtusis, spica longissima densa, bracteis florum longitudine, sepalis ovatis obtusis, petalis membranaceis linearibus emarginatis, labello rhomboideo lineari-lanceolato calcare filiformi arcuato duplo breviore, antheræ lobis parallelis rostello maximo plicato. *Lindl.*

Hab. N. W. America. Plentiful in the valleys of the Blue Mountains. *Douglas.*—Habit of *P. dilatata*, 1½ to 2 feet high. Flowers white.

13. *P. gracilis* (Lindl. *Gen. Orch. p.* 288); caule folioso, foliis linearibus acuminatis obtusis debilibus patentibus, spica laxa elongata, bracteis angustis acuminatis floribus inferioribus remotis longioribus, petalis obliquis acuminatis obtusis, labello lineari obtuso calcaris apice inflati obtusissimi longitudine. *Lindl.*

Hab. N. W. America. *Menzies.*—"*Caules* debiles, 1½-2-pedales. *Folia* 3-poll. longa, parum acuminata, nullo modo aucta."

14. *P. stricta* (Lindl. *Gen. Orch. p.* 288); caule folioso stricto, foliis ovato-lanceolatis internodiis duplo longioribus, spica laxa elongata, bracteis lineari-lanceolatis floribus longioribus, sepalo dorsali latiore, petalis ovatis acuminatis obtusis, labello lineari-obtuso calcare apice inflato obtusissimo duplo longiore. *Lindl.*

Hab. N. W. Coast of America. *Douglas.* Observatory Inlet. *Scouler.*—"Priore differt habitu stricto, foliis brevioribus (2½ poll.) latioribus et magis acuminatis, demum calcare duplo breviore."

15. *P. graminea* (Lindl. *Gen. Orch. p.* 289); caule folioso, foliis strictis inferioribus lineari-lanceolatis obtusiusculis superioribus acuminatis, spica laxiuscula, bracteis acuminatis floribus brevioribus, petalis obliquis apice truncatis tridentatis labello rhombeo-lanceolato undulato venoso æqualibus calcare clavato arcuato duplo brevioribus. *Lindl.*

Hab. N. W. America. *Menzies.* Upland swamps, at Millbank Sound. *Tolmie.* "*Glandulæ* maximæ pollinis æquales."—I possess the present and the two preceding species, which, but for the opinion of Professor Lindley, I should have been disposed to unite with my narrow-leaved var. of *P. dilatata*, from Canada.

2. *Labellum incisum.*

16. *P. holopetala* (Lindl. *Gen. Orch. p.* 291); caule folioso, foliis ovato-lanceolatis acutis, spica laxa multiflora, bracteis lineari-lanceolatis ovarii longitudine, sepalis suborbiculatis obtusis supremo galeato, petalis linearibus acuminatis obtusis integerrimis, labello lanceolato margine lacero calcare filiformi duplo breviore, ovario rostrato. *Lindl.*—Habenaria blephariglottis. *Hook. Ex. Fl. p.* 87. (nec aliorum, *fide Lindl.*).

Hab. Canada. *Goldie.*—Notwithstanding the high authority of Dr Lindley, I am still disposed to consider this as a very trifling variety of the following, only marked by having entire petals and small flowers. The toothing of the petals is, in the true *blephariglottis*, often nearly obsolete.

17. *P. blephariglottis* (Lindl. *Gen. Orch. p.* 291); caule folioso, foliis inferioribus lanceolatis canaliculatis sensim decrescentibus, spica oblonga multiflora densa, bracteis foliaceis linearibus acuminatis floribus brevioribus, sepalis rotundato-oblongis lateralibus reflexis, petalis spathulatis dentatis, labello oblongo plano fimbriato medio papilloso calcare recto pendulo triplo breviore, ovario longissimo rostrato. *Lindl.*—Orchis blephariglottis. *Willd.* (*fide Lindl.*) *an alior.?*

Hab. Canada. *Schweinitz. Lady Dalhousie. Mrs Perceval. Mrs Sheppard.* Newfoundland. *Miss Brenton.*—Intermediate in the character of labellum and petals, between the preceding and following species.

18. *P. ciliaris* (Lindl. *Gen. Orch. p.* 292); caule folioso, foliis inferioribus ovato-lanceolatis supremis minimis, spica oblonga densa multiflora, bracteis acuminatis ovario brevioribus, sepalis reflexis ovato-subrotundis obtusis, petalis linearibus reflexis apice incisis, labello oblongo margine capillaceo multifido calcare arcuato duplo breviore, ovario colorato longissime rostrato. *Lindl.*—*α.* floribus aureis. *Lindl.*—Habenaria ciliaris. *Br.*—Orchis, *L.*—*Ph. Am.* 2. *p.* 585. *Sims, Bot. Mag. p.* 1668.—*β. floribus niveis. Lindl.*—Orchis blephariglottis. *Ell. et alior.* (*Lindl.*).

Hab. *α.* Canada. *Goldie* (*in Herb. nostr.*).

3. *Labellum tripartitum, laciniis indivisis.*

19. *P. rotundifolia* (Lindl. *Gen. Orch. p.* 292); folio solitario radicali subrotundo-ovato plano, scapo nudo, spica pauciflora laxiuscula, bracteis obtusis ovario brevioribus, sepalis petalisque obtusis, labello trilobo lobis lateralibus subfalcatis intermedio obcordato, calcare acuto labelli longitudine. *Lindl.*—(Tab. CCI.)—Habenaria, *Rich. App. p.* 33. Orchis, *Ph. Am.* 2. *p.* 588.

Hab. Hudson's Bay (*Herb. Banks.*) Island of Anticosti. *Goldie.* Newfoundland. *Mr Cormack.* Canada. *Lady Dalhousie;* to Carlton House Fort on the Saskatchawan; and to Jasper's Lake in the Rocky Mountains. *Dr Richardson. Drummond.*—Leaves spotted, Mr Drummond observes, like those of *Orchis maculata.* Flowers pale dirty white.

Tab. CCI. *Fig.* 1, Flower :—*magnified.*

4. *Labellum tripartitum, laciniis incisis.*

20. *P. incisa* (Lindl. *Gen. Orch. p.* 293); caule folioso, foliis obovato-oblongis sursum decrescentibus, racemo oblongo multifloro, bracteis linearibus acuminatis floribus longioribus, sepalis oblongis lateralibus deflexis, petalis erectis oblongis denticulatis, labelli unguiculati subrotundi laciniis cuneatis inciso-denticulatis intermedia majore calcare duplo breviore. *Lindl.*—Habenaria, *Spr.*—Orchis, *Willd.*—*Ph. Am.* 2. *p.* 589.

Hab. Sillery, Canada. *Mrs Sheppard.*—Perhaps only a stunted var. of the following.

21. *P. fimbriata* (Lindl. *Gen. Orch. p.* 293); caule folioso, foliis oblongis sursum decrescentibus, racemo oblongo multifloro, bracteis linearibus acuminatis supremis floribus subæqualibus, sepalis oblongis obtusis lateralibus deflexis, petalis erectis oblongis obtusis incisis, labelli unguiculati subrotundi laciniis cuneatis inciso-dentatis intermedia majore calcare duplo breviore. *Lindl.*—*α. grandiflora.*—Habenaria, *Br.*—*Hook. Ex. Fl. t.* 224.—Orchis grandiflora. *Bigel.* (Habenaria, *Torr.*—Platanthera, *Lindl.*)—*β. floribus minoribus.* P. crispa. *Lindl.*

Hab. *α.* and *β.* Abundant throughout Canada. *Mrs Perceval. Mrs Sheppard. Cleghorn.* Newfoundland (chiefly *β*). *Miss Brenton.*

22. *P. psychodes* (Lindl. *Gen. Orch. p.* 294); caule folioso, foliis inferioribus oblongis obtusis supremis angustissimis acuminatis, racemo laxo multifloro, bracteis foliaceis floribus longioribus, sepalis retusis lateralibus deflexis, petalis emarginatis, labello unguiculato tripartito laciniis cuneatis capillaceo-multifidis subæqualibus, calcare ovario duplo breviore. *Lindl.*—*α.* laciniis labelli omnibus multifidis. *Lindl.*—Orchis psychodes. *L.*—*Ph. Am.* 2. *p.* 585.—Habenaria, *Spr.*—Habenaria lacera. *Br.*—Orchis, *Ph. Am.* 2. *p.* 586.—*β.* lacinia intermedia labelli indivisa. *Lindl.*

Hab. *α.* Canada. (*Pursh*), Sillery. *Mrs Sheppard.*—Probably not distinct from the preceding. On the subject of this species, my valued friend Dr Gray thus writes to me, after an examination of the Banksian and Gronovian Herbaria: "As to *Orchis psychodes*, there is still a great confusion of synonomy, or would

be if you were to go back to the original, which would now be scarcely proper. You will see by the *Sp. Plant. ed.* 1., that the species is founded on a plant of Kalm, from Canada; and that a plant of Gronovius from Virginia, is referred to it. The *O. psychodes* of Willdenow, and as far as I know, of almost all later botanists, is the *O. lacera* of Mx.—Now, I find that the Gronovian plant is *O. cristata*, Willd. (the small-flowered, yellow, New Jersey species,)—the specimen from Kalm, in *Herb. Linn.*, from which the detailed description is drawn, is *O. fimbriata!*—a specimen with more crowded flowers, and rather smaller than usual."

9. PERISTYLUS. *Lindl.*

(Omnia *Platantheræ*, sed calyx semper campanulatus et calcar brevissimum sæpius scrotiforme.)

1. *P. Chorisianus* (Lindl. *Gen. Orch. p.* 297); foliis binis lato-ovatis acutis, spica pauciflora laxiuscula, bracteis ovatis acuminatis floribus longioribus, sepalis ovatis obtusis membranaceis patentibus, petalis carnosis subrotundo-ovatis conniventibus, labello ovato canaliculato obtuso apice cucullato, calcare brevissime subtereti. *Lindl.*—Habenaria. ***Cham. in Linnæa*, 3. *p.* 31.**

Hab. Unalaschka. ***Chamisso* (*in Herb. nostr.*).**

2. *P. bracteatus* (Lindl. *Gen. Orch. p.* 298); caule folioso, foliis oblongis obtusis vel retusis sursum angustatis et acutioribus, spica laxa, bracteis foliaceis acuminatis floribus duplo triploque longioribus, petalis linearibus erectis, labello lineari truncato subcuneato angulis apice nunc productioribus, calcare inflato brevi. *Lindl.*—Habenaria. *Br.*—*Pursh, Am.* **2. *p.* 587. *Hook. Ex. Fl. t.* 175.**

Hab. From Lake Huron (*Dr Todd*) to the Saskatchawan, and to swamps in the Rocky Mountains. *Dr Richardson. Drummond.*—Notwithstanding the greater size of this plant, (sometimes a foot high,) and its large foliaceous bracteas, I am much disposed to concur with Dr Lindley in the opinion that it is not really distinct from *P. viridis* of Europe, of which I have specimens from the Altai, and from the Highlands of Scotland, which can scarcely be distinguished from it. I may add too, that Mr Drummond, who must have been familiar with *P. viridis*, marked his Rocky Mountain specimens by that name.

§ IV. Arethuseæ. *Lindl.*

10. ARETHUSA. *Sw.*

1. *A. bulbosa. L.—Ph. Am.* **2. *p.* 591. *Hook. Ex. Fl. t.* 170. *Bot. Mag. t.* 2204.**

Hab. Canada. *Pursh. Lady Dalhousie. Mrs Perceval. Goldie.* Newfoundland. *Mr Cormack.*

11. POGONIA. *Juss.*

1. *P. ophioglossoides* (Ker, *Bot. Reg. t.* 148); radice fibrosa, scapo unifloro, folio bracteaque elliptico-lanceolatis, petalis exterioribus oblongo-ovatis, labello disco papilloso margine dentato. *Hook. Ex. Fl. t.* 70.—Arethusa. *L.—Ph. Am.* **2. *p.* 592.**

Hab. Canada. *Pursh. Lady Dalhousie. Mr Cleghorn.* Newfoundland. *Dr Morrison.*—Flower rose-colour.

2. *P. pendula* (Lindl. *Bot. Reg. t.* 908); foliis ovatis squamiformibus amplexicaulibus, floribus subsolitariis cernuis, labelli lobo medio oblongo crispo, caule angulato. *Lindl.*—Triphora pendula. *Nutt.*—Arethusa. *Willd.*—*Ph. Am.* 2. *p.* 590.—A. trianthophora. *Sw.*—A. parviflora. *Mx.*

Hab. Canada. *Goldie. Douglas. Nuttall.*—Flowers white. Plant 2-4 inches high. Lindley has certainly correctly referred this curious little plant to *Pogonia.*

12. CALOPOGON. *Br.*

1. *C. pulchellus. Br. Hort. Kew. ed.* 2. *v.* 5. *p.* 204.—Cymbidium. *Willd.*—*Ph. Am.* 2. *p.* 592.—Limodorum. *Curt. Bot. Mag. t.* 116.—L. tuberosum. *Mx.*

Hab. Canada, frequent. Newfoundland. *Miss Brenton. Dr Morrison.*

13. EPIPACTIS. *Hall.*

1. *E. gigantea;* elata, foliis ovato-lanceolatis marginibus scabris, floribus solitariis axillaribus nutantibus, labello sepalis petalisque acuminatis.—(Tab. CCII.) *Douglas mst.*

Hab. N. W. America. On the subalpine regions of the Blue and Rocky Mountains. *Douglas.* Columbia River, about Fort Vancouver. *Dr Scouler.*—Two to 3 feet high; stem leafy to the top; leaves 5-6 inches long, the lower ones sheathing and very obtuse, the rest much acuminated. The colour of the flowers appears to be greenish-brown, like those of *E. palustris;* but in the large axillary flowers, it most resembles *E. pallens*, from which it may be at once known by its drooping flowers, acuminated sepals, petals and labellum, as well as by the leaves, which are moreover, very rough, with minute harsh serratures at the margin.

Tab. CCII. *Fig.* 1, Flower, side view; *f.* 2, Front view of do.; *f.* 3, Column and lip:—*magnified.*

§ V. Neottieæ. *Lindl.*

14. SPIRANTHES. *Rich.*

1. *S. cernua* (Rich.); foliis lineari-lanceolatis radicalibus basi attenuatis superioribus sensim minoribus vaginantibus, spica densa, floribus demum cernuis bracteis brevioribus, sepalis petalisque coherentibus labello oblongo integerrimo apice dilatato crenulato inferne pulcherrime venoso brevioribus. *Lindl. Bot. Reg. t.* 283.—Neottia. *Willd.*—*Bot. Mag. t.* 1568. *Ph. Am.* 2. *p.* 589.

Hab. Canada; to the Saskatchawan and the Lake of the Woods in the Rocky Mountains. *Dr Richardson. Drummond.* Newfoundland. *Dr Morrison. Miss Brenton.* N. W. America. *Menzies.* Fort Vancouver. *Douglas. Drummond.*—At first sight resembling stout plants of the European *S. æstivalis;* but the spikes are much more dense, the bracteas and flowers larger, and the lateral sepals cohere with the upper one and the petals, for nearly their whole length.

2. *S. gracilis;* foliis radicalibus ovatis petiolatis, scapo elongato vaginis subfoliosis

squamatis, spica gracili laxa, floribus bracteas superantibus, sepalis lateralibus liberis labello oblongo-subspathulato crenulato paullo longioribus.—(Tab. CCIII.)—*Bigel. Bost. ed.* 2. *p.* 322.—Neottia tortilis. *Ph. Am.* 2. *p.* 589 (*non Sw.*).—Ophrys æstivalis. *Mx. Am.* 2. *p.* 157.

Hab. Canada; and from Lake Huron, (*Dr Todd*) to Fort Franklin, on the Mackenzie River. *Dr Richardson. Drummond.*—Dr Bigelow has well described this plant, and remarked that the radical leaves frequently falling off, cause it to appear leafless at the time of flowering; and it is this imperfect state evidently, that Michaux has described, and when he says, "*scapo* folioso, foliis lanceolatis acutissimis," he alludes to its leaf-like scales. Pursh completely misunderstood Michaux, or he would never have referred the plant to *Neottia tortilis* of Swartz, which has linear radical leaves a foot long, and a scape 2 feet high; and he has copied the character of *N. tortilis* from Swartz and Willdenow. The present species is frequent in the United States. I possess specimens from Drs Schweinitz and Boott, and from Mr Greene.

Tab. CCIII. *Fig.* 1, Flower; *f.* 2, Labellum:—*magnified.*

3. *S. decipiens;* foliis radicalibus ovatis, scapo pubescente squamoso squamis subfoliaceis, spica multiflora laxiuscula, bracteis flore brevioribus, labello ovato acuminato obtuso basi concavo apice conduplicato, anthera gynizoque acuminatis. (Tab. CCIV.)

Hab. Lake Huron. *Dr Todd.* Lake Simcoe, and near the sources of the Columbia River. *Drummond.* Fort Vancouver and Straits of De Fuca. *Dr Scouler.*—This plant has so completely the habit of the *Goodyera pubescens* of American Botanists, that if I had not observed that its sepals were more acuminated, I should have been satisfied that it was that plant. But on looking into the flower, I find the column and anther and pollen to be completely those of a *Spiranthes.* Root or caudex creeping, jointed, with lateral fibres, resembling a *Scolopendra.* The leaves are in like manner frequently tessellated, or mottled with dark green on a pale green. Scape 8 inches to a foot high. Spike downy. Sepals ovato-lanceolate, acuminated, but rather obtuse, petals lanceolate, cohering with the upper sepal. Lip parallel with the column, ovate and concave at the base, then tapering gradually into a long, narrow, canaliculated, obtuse, nearly straight point. Column short. Stigma square near the base, tapering upwards into a long sharp acumen, the gynizus; anther, from the back of this, fixed and parallel with it, ovate, very convex above, terminating in a very sharp apex, opening with two cells and casting the pollen-mass on the back of the gynizus. This pollen-mass consists of a long subulate connectivum, to which are fixed, one on each side, a double row of compact cohering grains, the whole being pyriform, full yellow.

Tab. CCIV. *Fig.* 1, Flower; *f.* 2, Column and lip; *f.* 3, 4. Different views of the column; *f.* 5, Upper side of a pollen mass; *f.* 6, Underside of do.:—*magnified.*

15. GOODYERA. *Br.*

1. *G. repens* (Br.); foliis ovatis subunicoloribus, labello ovato sublonge acuminato acumine modice recurvo, columna brevissima. *Hook. Fl. Lond. N. S. t.* 144.—Neottia. *Sw.—Ph. Am.* 2. *p.* 589.—Satyrium. *L.*

Hab. Mountain woods of the Rocky Mountains (*Drummond*) and from the Saskatchawan to Fort Franklin. *Dr Richardson.*—Smaller than the following, with the leaves thinner, rarely reticulated with white veins. I have in vain sought for a distinctive character in the sepals; they appear to me to be of the same shape in both species, and even the lip presents but little character. The acumen is, however, longer and less recurved in the present individual, and the column is always very short.

2. *G. pubescens* (Br.); foliis ovatis plerumque albo-reticulatis, labello ovato breviacuminato acumine arcte reflexo.—*Lindl. Coll. Bot. t.* 25. *Bot. Mag. t.* 2540 (mala).—Neottia. *Willd.—Ph. Am.* 2. *p.* 590.

Hab. Canada. *Pursh. Dr Todd. Mrs Sheppard. Mrs Perceval.* Newfoundland. *Miss Brenton.*

16. LISTERA. *Br.*

1. *L. cordata* (Br.); caule bifolio, foliis oppositis cordatis, sepalis ovato-oblongis, racemo glabro, labello lineari basi utrinque unidentata apice bifido laciniis lineari-acuminatis, columna perbrevi. *Hook. in Fl. Lond. N. S. t.* 143.—Epipactis. *Sw.*—Ophrys. *L.—E. Bot. t.* 358.—*Mx.*—β. sepalis labelloque angustioribus.

Hab. Newfoundland and Labrador. *Dr Morrison.* Lake Winipeg to the Saskatchawan. *Dr Richardson.*—β. N. W. Coast; from De Fuca to Unalaschka. *Chamisso. Bongard. Dr Scouler. Tolmie.*—This, according to Nuttall, is found so far south as New Jersey in the United States. The N. W. specimens have certainly narrower sepals and lip than the others.

2. *L. convallarioides* (Nutt.); caule bifolio, foliis oppositis orbiculari-ovatis, racemo pubescente, sepalis anguste lanceolatis demum reflexis, labello oblongo-obcordato bifido cum mucrone intermedio obtuso laciniis brevibus obtusissimis, columna elongata cylindrica. (Tab. CCV.)—Epipactis. *Sw.—Ph. Am.* 2. *p.* 591.—Listera Eschscholziana. *Cham. in Linnæa, v.* 3. *p.* 33.

Hab. Near Quebec. *Torrey* (*in Herb. nostr.*). *Mrs Perceval.* Lake Huron. *Dr Todd.* Shady woods in mountain swamps at the base of the Rocky Mountains. *Drummond.* N. W. America. *Menzies, in Herb. Banks.* (*fide Boott.*). Clarence Straits. *Tolmie.* Unalaschka. *Chamisso* (*in Herb. nostr.*).

Tab. CCV. *Fig.* 1, Flower:—*magnified.*

§ VI. Cypripedieæ. *Lindl.*

17. CYPRIPEDIUM. *L.*

* *Scapigera.*

1. *C. humile. Sw.—Ph. Am.* 2. *p.* 596.—C. acaule. *Ait. Bot. Mag. t.* 192.—α. petalis flavescenti-viridibus vel fuscescentibus, labello purpurascente, intus venis saturatius purpureis. *Rich. l. c.*—β. labello flavescenti-albo. *Rich. l. c.*

Hab. New Brunswick. *Mr Kendall.* Newfoundland. *Miss Brenton. Dr Morrison;* and (α. and β.) from Canada to Fort Franklin on the Mackenzie River. *Dr Richardson.*

** *Caule foliato.*

2. *C. spectabile* (Sw.); sepalis subæqualibus lato-ovatis obtusis, petalis lanceolatis planis longioribus, labello petalis longiore ventricoso subsulcato, stamine sterili cordato-ovato

obtuso.—*Lindl. Bot. Reg. t.* 1666. *Ph. Am.* 2. *p.* 594.—C. album. *Ait.*—*Bot. Mag. t.* 216.—C. Canadense. *Mx.*—C. Calceolus. *γ. L.*

Hab. Canada. *Pursh. Dr Todd. Mrs Perceval. Mrs Sheppard.*—Flower the largest of any of the N. American species. Sepals and petals white, lip tinged with purple.

3. *C. pubescens* (Willd.); sepalis lanceolatis, stamine sterili triangulari acuto, labello petalis breviore subtus superneque convexo-gibboso lateraliter compresso. *Hook. Bot. Mag. folio* 3024 (ad calcem); *t.* 3024. A. *Ph. Am.* 2. *p.* 594. *Rich. App. p.* 34.—C. parviflorum. *Bot. Mag. t.* 911 (*non Willd.*).

Hab. Canada to the Saskatchawan. *Dr Richardson. Drummond.*—Sepals narrow, greenish-brown, streaked with purple. Lip yellow.

4. *C. parviflorum* (Salisb. *in Linn. Trans.* 1. *p.* 77. *t.* 2. *f.* 2); sepalis lato-ovatis, stamine sterili triangulari acuto, labello petalis breviore supra subtusque planiusculo. *Hook. Bot. Mag. t.* 3024. *Ph. Am.* 2. *p.* 594.

Hab. Newfoundland. *Miss Brenton;* and throughout Canada to Lake Winipeg and the Rocky Mountains. *Dr Richardson. Drummond.* N. W. America, in the Blue Mountains.—Very nearly allied to the preceding, and often confounded with it. Sepals broader, and, as well as the petals, chocolate-coloured. Lip deeper yellow, flattened as it were above and below, the sides swelling out. It is, I believe, the more generally diffused of the two species in British N. America.

5. *C. passerinum* (Rich. *App. p.* 34); sepalo superiori ovali-subrotundo petala oblonga obtusissima labellumque obovatum ore rotundatum contractum subæquante, stamine sterili elliptico-cordato obtuso.—C. parviflorum. *Rich. App. ed.* 1. *p.* 340 (*excl. syn.*).

Hab. Pine woods, from the Saskatchawan to lat. 58°, and in the Rocky Mountains. *Dr Richardson. Drummond.*—A very remarkable and most distinct species, found, as far as I know, by no naturalist except those now mentioned. It is admirably described by Dr Richardson.

6. *C. arietinum* (Br. *Hort. Kew. ed.* 2. *v.* 5. *p.* 222); calyce trisepalo, stamine sterili orbiculari-spathulato, labello saccato-calcarato. *Br. in Bot. Mag. t.* 1569.

Hab. Canada; Montreal *(Messrs Chandlers and Buckingham). Goldie.* Portage of the Grand Rapid of the Saskatchawan. *Drummond.*—Only two or three specimens were gathered, and those in fruit; but roots were brought home which flowered in the Belfast Botanic Garden.—A small species, readily distinguished by the distinct sepals and lip coming to a deflexed point at the apex below, so as, in some directions, to resemble the head of a sheep or ram.

7. *C. guttatum* (Sw.); caule diphyllo, stamine sterili ovato emarginato deflexo, sepalo superiori ovato petalisque lanceolatis labellum ovali supra depressum ore patulo subæquantibus. *Reichenb. Ic. Bot. t.* 210.

Hab. Two specimens only, with withered flowers, were gathered by *Dr Richardson* at Fort Franklin, on the Mackenzie River. Unalaschka, most abundant. *Chamisso.*—Flower rather small, beautifully mottled with purple and white. The leaves always turn black in drying.

Ord. XVI. IRIDEÆ. *Juss.*

1. IRIS. *L.*

1. *I. versicolor. L.—Bot. Mag. t.* 21.

Hab. Canada. *Pursh.*

2. *I. Virginica. L.—Bot. Mag. t.* 703.—I. hexagona. *Walt.*—I. lacustris? *Nutt.*

Hab. Canada. *Pursh. Cleghorn;* to the Saskatchawan. *Dr Richardson. Drummond.* New Brunswick. *Mr Kendall.*

3. *I. tridentata. Ph.*—I. tripetala. *Walt.* (*not Thunb.*) *Bot. Mag. t.* 2886.

Hab. Canada. *Mrs Sheppard.*—Mr Herbert observes, "there are intermediate forms between *tridentata*, of which the petals are nearly obsolete, and *Virginica*, for the most part with a naked unbranched stalk, furnished below with a great foliaceous bract, sometimes with a short secondary branch proceeding from it."

4. *I. Caurina. Herb. mst.*

Hab. Canada. *Cleghorn. Goldie. Dr Todd.*—Under this name, Mr Herbert has marked in my Herbarium specimens of an *Iris*, of which I will not venture to draw up a character from the dried specimens; but which will doubtless be a subject of remark in the *Monograph of Irideæ*, preparing for the press by that zealous botanist. The note made by Mr Herbert, is to the following effect: "Iris *Caurina*, W. H., caule simplici vel ramulo inferiore minore breviore;" and further, "this plant has certainly the aspect of *I. tridentata*, but its petals are perfect, and the main distinction between its flower and that of *Virginica* is thereby removed, the tridentate petal being only an imperfection. The sub-equal fork characterizes *I. Virginica*."

5. *I. hæmatophylla. Fisch.—Sweet, Fl. Gard. t.* 118.—I. Sibirica, *γ.* sanguinea. *Ker, in Bot. Mag. t.* 1604.—I. sanguinea. *R. and S.*—*β.* Valametica; flore pallidiore? *Herb. mst.*

Hab. River Walamet, N. W. America. *Tolmie.*—"Folia acuta erecta, circiter pedalia $\frac{1}{4}$ unc. lata basi rubra scapo *non fistuloso* breviora, bractea inferiore foliacea amplexicauli, superiore minore vel nulla, spatha subtriunciali biflora acuta pedunculum superante, germine trigono, perianthio cærulescente, petalis angustis cristas angustas superantibus." *W. H. in Herb. nostr.*

6. *I. tenax. Dougl. in Bot. Reg. t.* 1218. *Bot. Mag. t.* 3343.

Hab. Common on dry undulating open grounds, from Cape Mendocino to Puget Sound, N. W. America. *Douglas. Tolmie. Dr Gairdner.* Newfoundland. *Dr Morrison.* New Brunswick. *Mr Kendall.*—My specimens from Newfoundland and New Brunswick exactly resemble those of the N. W. Coast, and are without hesitation referred to it by Mr Herbert.

2. SISYRINCHIUM. *L.*

1. *S. mucronatum. Mx.*

Hab. Lake Huron to the Saskatchawan. *Dr Todd. Dr Richardson. Drummond.* N. W. America, Fort Vancouver. *Douglas. Dr Scouler.* Walamet River. *Tolmie.*

2. *S. anceps. L.*—S. gramineum. *Lam.? Bot. Mag. t.* 464?

Hab. Newfoundland *(Miss Brenton)* to the Saskatchawan. *Dr Richardson. Drummond.* California *(Douglas)* to Sitcha, N. W. America. *Bongard.*—Mr Herbert remarks in my *Herbarium*, that *S. mucronatum* has usually the stalks much longer than the leaves; but that the varieties of *anceps* and *mucronatum* are in reality scarcely distinguishable.

3. *S. grandiflorum. Dougl. in Bot. Reg. t.* 1364. *Bot. Mag. t.* 3509.

Hab. Low hills of the Columbia, from the great falls to the Oakanagan, in dry soils. *Douglas.* Between Burnt and Malheur Rivers, Snake country. *Tolmie.*

Ord. XVII. HYPOXIDEÆ. *Br.*

1. *H. erecta. L.—Bot. Mag. t.* 710.

Hab. Canada. *Pursh.*

Ord. XVIII. DIOSCOREÆ. *Br.*

1. *D. villosa. L.*—D. paniculata. *Jacq. Ic. t.* 626.

Hab. Canada. *Pursh.*

Ord. XIX. CYPERACEÆ. *Juss.*

1. CAREX.* *L.*

The following valuable list, with characters and descriptions of new species of the British North American *Carices*, is entirely the work of my inestimable friend Dr Boott. The paper was accompanied with a letter, from which I make the following extract:—

"After months and months," says Dr Boott, "of intermittent study of *Carex*, I have completed the list of British and North American species, for publication in your British North American Flora, and if the deepest interest in the subject avails much, I can offer that as a recommendation of my humble labours. I have made the sketch as concise as possible, and, therefore, I hope you will publish it as I send it, letting me bear the responsibility of its defects. In a genus comprising so many species, I have thought it advisable at once to annex a full description of the new species. It will give an additional value to your admirable work, and, to afford space, I have inserted nothing on the known species, but what is essential to their being recognised, leaving synonyms to be gleaned generally from works that are easy of access to all. I have re-

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* Vide Mémoires Acad. Imp. des. Sc. de St Petersb. tom. 1. 1831. p. 195. "*Cyperaceæ novæ. C. A. Meyer.*"—Mém. de l'Acad. Imp. des Sc. de St Petersb. 6 series, tom. 2. p. 168. "*Bongard Obs. sur la Veg. de l'Isle de Sitcha.*"—Silliman's Journal. "*Caricography. C. Dewey.*" vols. 7, 9, 10, 11, 28, 29, 30.—Monograph of the N. American, Sp. of Carex. L.D. de Schweinitz. Edit. by J. Torrey, in Annals of Lyceum of Nat. Hist. N. York, 1825.—Mon. of N. American Cyperaceæ. J. Torrey, 1836.—Michaux, Fl. Bor. Am. 2. p. 169.—Muhlenberg des ub. Gram. et pl. cal. Phil. 1817.—Willdenow, Sp. pl. 4,207.—Schkuhr, riedgraf, (opus eximium).—Kunth Cyperographia. Stuttgard, 1837.—Goodenough, in Lin. Trs. 2, 126; 3, 76.—Rudge, Lin. Trs. 7, 96.—Hoppe and Sturm, Caricologia Germanica, 1835.

sorted to measurements in my descriptions, as affording something like precision in character, and I have taken the scale of Vahl in his paper in Act. Holm. as my standard. This has given me trouble, but *labor ipsa voluptas.* I shall go on and prepare a monograph of the genus, describing a few new species in a paper for the Linnæan Society this winter. I find the grouping of the (perhaps) 550 species of the *Carex* in one list, a puzzling thing. I have not affected to arrive at anything like natural grouping in the list of the British North American species, but have availed myself of some simple characters, to throw them into as reasonable a succession as I could. In a note at the beginning, I have made a reference to the principal works to be consulted; but for the sake of brevity, I have not quoted, under each species, all these works. For instance, I have not referred to any author beyond the one who first described the species; and, therefore, you will not find Willdenow nor Kunth quoted, except in those cases where it was essential. Had I done so, it would have swelled the paper to an inconvenient size. I have quoted Schkuhr's admirable figures, giving **the numbers of the fig. and not the lettering.**

"To do honour to the intrepid men who have so much exalted the character of our race by their arctic voyages, I have called the new species generally after them, including the name of Dr Richardson's gallant though humble friend, Hepburn; you will find it necessary, therefore, to change a few of the names I have affixed to the specimens forwarded to you by Hünneman. *C. fuscicolor* is *C. Liddoni; C. varia*, var. from North America and the Rocky Mountains, is *C. Mossi; C. integra* is *C. Hoppneri.* I cannot find any authority for admitting *C. squamosa* and *C. sparganioides* as natives of British America."

A. Spica solitaria.

* Dioica.

† *Stig.* 2.

1. *C. dioica. L.—Schk. f.* 1.—C. Redowskiana. *Meyer, t.* 4.

Hab. Carlton House to the Arctic Sea. *Dr Richardson.* Rocky Mountains. *Drummond.*

2. *C. leiocarpa. Meyer, t.* 5.

Hab. Sitcha. *Bongard.*

†† *Stig.* 3.

3. *C. scirpoidea. Mich.*—C. Wormskioldiana. *Horn. Fl. Dan.*

Hab. Fort Norman, Mackenzie River. *Dr Richardson.* Rocky Mountains. *Drummond.* Greenland. *Hornemann.*

** Androgyna.

+ Superne mascula.

† *Stig.* 2.

4. *C. capitata. L.—Schk. f.* 80.

Hab. Hudson's Bay. *Dr Richardson. Torrey.* Rocky Mountains. *Dr Richardson.* Greenland. *Hornemann.*

5. *C. filifolia. Nuttall, Gen. N. Am. Pl.* 2. 204.—Uncinia breviseta. *Torr.*

Hab. Carlton House. *Dr Richardson.* Rocky Mountains. *Drummond.* Missouri River. *Bradbury, in herb. Hooker.* (Stigmas often 3.) *Hook.*

6. *C. Hepburnii* (Boott); spica ovali pauciflora, stigmatibus 2, perigyniis ellipticis compressis brevi-rostratis ore membranaceo bifidis enerviis superne margine hispidis, squamam ovatam equilatam ferrugineam margine membranaceam subæquantibus. (Tab. CCVII.)

Hab. Rocky Mountains. *Drummond.* Greenland. *Horn. in herb. Hooker.*

Cæspitosa. *Culmus* 3-5 uncialis, glaber. *Folia* setacea, apice triangulari, hispida, basi vaginis latis costatis tecta, culmum æquantia. *Spica* 4 lineas longa. 2 lin. lata, flosculis masculis, femineis 6-8 instructa. *Squamasculæ* angustæ, lanceolatæ, pallidæ: *femineæ* late ovatæ, infima interdum brevi-hispida mucronata. *Perigynium* $1\frac{7}{9}$ lin. longum, $\frac{7}{9}$ lin. latum. aurantiaco-stramineum, apice ferrugineum squama demum paulo longius. *Achenium* lineam longum, $\frac{5}{9}$ lin. latum, olivaceum, obovato-ellipticum, basi styli incrassato terminatum.

Tab. CCVII. *Fig.* 1, Male Flower; *f.* 2, Female do.; *f.* 3, Perigynium; *f.* 4, Achenium and seta:—*magnified.*

7. *C. micropoda. Meyer, t.* 6.

Hab. Unalaschka. *Eschcholtz.*

8. *C. anthoxantha. Presl,—Kunth, Cyp.* 370.

Hab. Nootka Sound. *Presl.*

†† *Stig.* 3.

9. *C. obtusata. Lilj.—Schk. f.* 159.—C. Backiana. *Dewey,* (e descript.)

Hab. Carlton House. *Richardson.* Rocky Mountains. *Drummond.* Greenland. *Horn.*—*Achenium* basi stipite filiformi instructum, ut obs. cel. Kunth.

10. *C. rupestris. Allion.—Schk. f.* 139.—C. attenuata. *R. Br.*

Hab. Fort Norman. *Richardson.* (β. major; C. Drummondiana. *Dewey.*) Rocky Mountains. *Drummond.*

11. *C. circinnata. Meyer, t.* 6.

Hab. Unalaschka. *Eschscholtz.* Sitcha. *Bongard.*

12. *C. polytrichoides, Muhl.—Schk. f.* 138.—C. microstachya. *Mich.*

Hab. Hudson's Bay to Norway House. *Dr Richardson.*

13. *C. affinis. R. Br. in Frankl. Narr. App.* 1823.

Hab. Wooded country. *Dr Richardson.*—The specimen in *Herb. Banks,* has setaceous leaves, and looks like *C. filifolia;* the spike is linear, and near an inch long. It is too large, though the specimen is very young, for *C. Hepburnii* or *C. Lyoni.*

14. *C. Lyoni* (Boott); spica lineari pauciflora superne mascula, stigmatibus 3, perigyniis (immaturis) lineari-lanceolatis lævibus ore membranaceo obliquo squama ferruginea lanceolata plus minus acuta brevioribus. (Tab. CCVIII.)

Hab. Rocky Mountains. *Drummond.*

Cæspitosa. *Radix* repens, fibris longis albis implexa. *Culmus* biuncialis, obtusangulus, glaberrimus. *Folia* setacea, canaliculata, glauca, glaberrima, stricta, erecta, culmum superantia, 1-4 pollices longa, apice callosa, obtusa, nitente glabra, vaginis longis costatis, partem inferiorem culmi vestientibus. *Spica* linearis, 3-5 lineas longa, ¾ lin. lata, ferruginea, flosculis masculis 3-4, femineis 7-9 instructa. *Squamæ* imbricatæ, lanceolatæ, acutæ, vel apice membranaceæ, obtusæ, perigyniis latiores et paululum longiores. *Perigynium* (floriferum) 1⅘ lin. longum, ⅖ lin. latum, pallidum, nervosum. *Achenium* (valde juvenile) ⅔ lin. longum, ⅓ lin. latum. *Stylus* insertus. *Stig.* 3, brevia.

Tab. CCVIII. *Fig.* 1, Male Flower ; *f.* 2, Perigynium :—*magnified.*

15. *C. microglochin. Wahl.—Schk. f.* 210.

Hab. Greenland. *Horn. in Herb. Hooker.*

16. *C. pauciflora. Lightf.—Schk. f.* 4.

Hab. Rocky Mountains. *Drummond.* Sitcha. *Bongard.* Newfoundland. *Herb. Banks.*

17. *C. Pyrenaica. Wahl.—Meyer, t.* 7.

Hab. Rocky Mountains. *Drummond.*

18. *C. nigricans. Meyer, t.* 7.

Hab. Rocky Mountains. *Drummond.* Unalaschka. *Eschscholtz.*

19. *C. Backii* (Boott); spica androgyna superne mascula flosculis masculis 3 minimis obscuris femineis 2-4 laxis conspicuis instructa, stigmatibus 3, perigyniis globoso-ovatis acuminatis conico-rostatis glabris ore integro superne subinflatis vacuis squama lata lanceolata foliacea multum brevioribus. (Tab. CCIX.)

Hab. Carlton House, Lake Winnipeg. *Dr Richardson.* Rocky Mountains. *Drummond.*

Cæspitosa, radice fibrosa. *Culmus* gracilis, nudus, superne clavatus, angulis acutis subulatis scabris, sæpe abbreviatus, semper foliis brevior. *Folia* 1-2 lineas lata, 5-10 pollices longa, erecta, stricta, firma, glabra, apice triquetra scabra, acuta. *Spica* subsexflora, 4 lin. longa, pars staminifera minima, obscura, triflora, lineam longa, angustissima, pedicellata, vix longitudinem dimidiam flosculi feminei superioris attingens. *Squama externa* cylindrico-clausa? pallide ferruginea, apice membranacea: reliquæ oblongæ diaphanæ, arcte amplectentes. *Stamina* 2? *Stylus* sæpius exsertus. *Stig.* 3, crassiuscula, glabra. *Squamæ femineæ* inferiores foliaceæ, lanceolatæ, acuminatæ, sursum decrescentes: *superior* perigynium subæquans: *reliquæ* eo multum longiores, basi nervosæ perigynium amplectentes. *Perigynium* ovato-acuminatum, superne vacuum, conico-rostratum, demum subpyriforme, ore integro, omnino glabrum binervosum, 2⅕ lin. longum, lineam latum. *Achenium* 1⅘ lin. longum ⅘ latum, abbreviato-pyriforme, apice rotundatum basi abrupte contractum, obscure triquetrum, pallidum.

C. Willdenowii, Schk. *C. Steudelii*, Kunth, affines.—Differt à priori flosculis masculis 3, nunquam (etiam in culmis marcidis anni prioris) conspicuis imbricatis, stig. glabris, perigyniis glabris. *C. Steudelii*, Kunth, flosculis masculis subduodenis gaudet.

Tab. CCIX. *Fig.* 1, Male Spike and advanced Female Flower or Perigynium ; *f.* 2, Achenium :—*magnified.*

++ Inferne mascula.

20. *C. ursina. Dewey.* (Tab. CCX.)

Hab. Arctic Sea Coast. *Dr Richardson.*

Tab. CCX. *Fig.* 1, Spike; *f.* 2, Perigynium and scale; *f.* 3, Perigynium; *f.* 4, Achenium:—*magnified.*

B. Spiculæ aggregatæ, androgynæ, sessiles. Stig. 2.

* Apice masculæ.

21. *C. disperma. Dewey.*—C. loliacea. *Dewey. Torrey.*

Hab. Rocky Mountains. *Torrey.* Common in British America. *Dr Richardson. Drummond.*—(vix à *C. loliacea, L.* distinguenda).

22. *C. chordorhiza. Ehrh.—Schk. f.* 31. *G. Ii.*

Hab. Hudson's Bay, Cumberland House. *Drummond.* Lake Winnipeg, Norway House and Carlton House. *Dr Richardson.* Greenland. *Horn. in Herb. Hooker.*

23. *C. stenophylla. Wahl.—Schk. f.* 30.

Hab. Carlton House. *Dr Richardson.* Rocky Mountains. *Drummond.* N. W. Coast. *Douglas. Scouler.*

24. *C. incurva. Light.—Schk. f.* 95.

Hab. Cumberland House, Bear Lake. *Dr Richardson.* Rocky Mountains. *Drummond.* Greenland. *Horn. in Herb. Hook.*

25. *C. fulvicoma. Dewey.*

Hab. Arctic Sea Coast. *Dr Richardson.*—(species minime cognita !).

26. *C. anthericoides. Presl.—Kunth, Cyp.* 418.

Hab. Port Mulgrave, Nootka Sound. *Presl.*

27. *C. Hoodii* (Boott); spica composita e spiculis 9-10 in capitulum ovatum arcte congestis apice masculis, stigmatibus 2, perigyniis ovatis acuminato-rostratis ciliato-serratis bifidis ore antice oblique fisso squamam ovatam acutam æquantibus. (Tab. CCXI.)

Hab. Columbia River. *Douglas. Scouler.*

Culmus bipedalis, debilis, inferne foliatus glaber, superne nudus acutangulus scaber, basi rudimentis foliorum brevibus atro-purpureis tectus. *Folia* 1-1$\frac{1}{4}$ lin. lata, partem inferiorem fere dimidiam culmi alternatim vaginantia, deorsum breviora, superius culmi æquans vel eo longius, supra (oculo armato) papilloso-scabra, marginibus hispida apice triquetra scabra; *Spiculis* subdenis parvis ovatis in capitulum ferrugineum 8 lin. longum, 5 lin. latum congestis: ad basin bracteis squamæformibus brevi-hispido-mucronatis suffultis. *Squamæ* ferrugineæ, nervo pallido, ovato-acuminatæ, acutæ vel mucronulatæ, perigynium subæquantes. *Perigy-*

nium (vix maturum) $1\frac{7}{9}$ lin. longum, $\frac{7}{9}$ lin. latum, ovatum, acuminato-rostratum, bifidum, ciliato-serratum, vel antice alte fisso. *Achenium* $\frac{8}{9}$ lin. longum, $\frac{5}{9}$ lin. latum, ovatum, pallidum.

Tab. CCXI. *Fig.* 1, Female Flower; *f.* 2, young Perigynium; *f.* 3, more advanced do.; *f.* 4, Achenium:—*magnified.*

28. *C. cephalophora. Muhl.—Schk. f.* 133. *Beck, Bot. North and Midl. States.*

Hab. Canada, Albany, 1833.

29. *C. Muhlenbergii. Schk. f.* 178.

Hab. Hudson's Bay. *Torrey.*

30. *C. muricata. L.—Schk. f.* 22.

Hab. N. W. Coast. *Douglas.*

31. *C. Hookeriana. Dewey.* (Tab. CCXII.)

Hab. Carlton House. *Dr Richardson.*

Tab. CCXII. *Fig.* 1, Bractea; *f.* 2, Female Flower; *f.* 3, Perigynium:—*magnified.*

32. *C. rosea. Schk. f.* 179.

Hab. Canada. *Pursh. Cleghorn.* Columbia River. *Scouler.*

33. *C. retroflexa. Muhl.—Schk. f.* 140.

Hab. British America. *Torrey.*

34. *C. siccata. Dewey.*—C. pallida. *Meyer, t.* 8.

Hab. Cumberland House, Lake Winnipeg. *Dr Richardson.* Rocky Mountains. *Drummond.* Columbia River. *Scouler.*

35. *C. intermedia. Good.—Schk. f.* 7.

Hab. Carlton House. *Dr Richardson.*

36. *C. bromoides. Schk. f.* 176.

Hab. British America; Rocky Mountains. *Torrey.*

37. *C. vulpinoidea. Mich.*—C. stipata. *Muhl.—Schk. f.* 132.

Hab. Common in British America. *Dr Richardson. Drummond.* Columbia River. *Douglas.*

38. *C. multiflora. Muhl.— Schk. f.* 144.

Hab. Canada. *Dr Richardson.*

39. *C. marcida* (Boott); spica oblonga composita e spiculis pluribus parvis ovatis superne masculis superioribus simplicibus inferioribus compositis omnibus congestis ebracteatis, stigmatibus 2, perigyniis late ovatis acuminatis rostratis plano-convexis superne

margine serratis nervosis ore membranaceo antice profundius fisso squamam ovatam acutam æquantibus. (Tab. CCXIII.)

Hab. Columbia River. *Scouler.*

Culmus 1½-2½ ped. altus, gracilis, superne nudus scabriusculus. *Folia* plana, plerumque involuta, lineam lata, culmo breviora, marginibus scabra in apicem triquetram scabram attenuatam producta. *Bractea* squamæformis, infima mucronata spiculis brevior. *Spica* 8-15 lineas longa, 4-5 lin. lata, pallide straminea. *Spiculæ* numerosæ parvæ ovatæ, superiores simplices congestæ, inferiores compositæ breves aliis arcte contiguæ, omnes imbricatæ quasi florentes, tamen perigynia matura seclusa ferentes. *Squamæ* ovatæ acutæ imbricatæ, paleatæ quasi marcidæ, margine membranaceæ. *Perigynium* 1⅓ lin. longum, ⅔ lin. latum, fere suborbiculato-acuminatum, plano-convexum rostratum superne margine serratum atro-castaneum facie convexa nervosum, ore membranaceo antice profundius fisso. *Achenium* brevi-ellipticum fuscum, 6-9 lin. longum, 4-9 lin. latum.

Tab. CCXIII. *Fig.* 1, Female Flower; *f.* 2, 3, Perigynia; *f.* 4, Achenium:—*magnified.*

40. *C. Douglasii* (Boott); spica dioica! composita e spiculis subduodenis pluribusve ovatis superioribus simplicibus arcte congestis inferioribus remotiusculis interdum compositis, stigmatibus 2, perigyniis elliptico-lanceolatis rostratis bifidis squama lanceolata acuta brevioribus. (Tab. CCXIV.)

Hab. N. W. Coast. *Douglas.* Rocky Mountains. *Drummond.*

Culmus vix pedalis, strictus, erectus, obtusangulus, glaberrimus, superne nudus. *Folia* 1-1½ lin. lata, margine apiceque triangulari longe attenuata scabra, culmo paululum breviora. *Bractea* setacea brevis, vel versus basin spicæ foliaceo-setacea eamque superans: superiores squamæformes mucronatæ. *Spica* 15 lineas ad duas pollices longa, 6-9 lin. lata e spiculis simplicibus arcte congestis composita, vel ad basin ramosa laxiorque. *Squamæ* castaneæ lanceolatæ acutæ perigynio longiores. *Perigynium* (floriferum) 2 lin. longum, ⅔ lin. latum, elliptico-lanceolatum rostratum bifidum glabrum viride vel rostro subhispidulo ferrugineo, marginibus obtusis. *Achenium* (immaturum) ⅔ lin. longum, ⅓ lin. latum, olivaceum. *Stylus* exsertus, basi incrassato? Stig. 2, longissima.—Stamina pluribus speciminibus omnino desunt.

Tab. CCXIV. *Fig.* 1, Perigynium:—*magnified.*

41. *C. teretiuscula. Good.—Schk. f.* 19.

Hab. Cumberland House, Rocky Mountains. *Drummond.*

42. *C. paradoxa. Schk. f.* 21.

Hab. Carlton and Norway House. *Dr Richardson.*

** Basi masculæ.

43. *C. trisperma. Dewey.*

Hab. Cumberland House. *Drummond.* Rocky Mountains. *Torrey.*

44. *C. Deweyana. Schw.*—C. remota. *Rich. in Frank. Narr.*

Hab. Canada, to Norway House. *Dr Richardson.* Rocky Mountains. *Drummond.*

45. *C. elongata. L.—Schk. f.* 25.

Hab. Sitcha. *Bongard.*

46. *C. curta. Good.—Schk. f.* 13.—C. Richardi. *Mich.*—C. canescens. *Torr. β. minor.*

Hab. Common in British America. *Dr Richardson. Drummond.* Sitcha. *Bongard.*

47. *C. stellulata. Good.—Schk. f.* 14.

Hab. Common in British America; Rocky Mountains. *Dr Richardson. Drummond.* Sitcha. *Bongard.*

48. *C. tenuiflora. Wahl.—Schk. f.* 187.

Hab. Canada to Norway House. *Dr Richardson. Drummond.*

49. *C. heleonastes. L.—Schk.* 97.—C. Carltonia. *Dewey. Torr.*

Hab. Hudson's Bay, Cumberland House. *Drummond.* Norway House. *Dr Richardson.*

50. *C. glareosa. Wahl.*

Hab. Greenland. *Hornemann. Torrey.*

51. *C. marina. Dewey.*

Hab. Arctic Sea Coast. *Dr Richardson.*

52. *C. leporina. L.—Schk. f.* 79. 129.—C. lagopina. *Walh.*

Hab. Rocky Mountains. *Drummond.* Greenland. *Hornemann in Herb. Hooker.*

53. *C. petasata. Dewey.*

Hab. Rocky Mountains. *Drummond.*

54. *C. ovalis. Good.—Schk. f.* 8.

Hab. Columbia River. *Menzies. Scouler.*

55. *C. scoparia. Schk. f.* 175.

Hab. Common in British America. *Dr Richardson.* Columbia River. *Scouler.*

56. *C. lagopodioides. Schk. f.* 177.

Hab. Cumberland House. *Drummond.* Columbia River. *Douglas. Scouler.*

57. *C. arida. Torr. Mon. t.* 25. *f.* 2.

Hab. Norway and Cumberland House. *Drummond.*

58. *C. Liddoni* (Boott); spica composita e spiculis 6 ellipticis contiguis ebracteatis basi masculis, stigmatibus 2, perigyniis lanceolatis acuminatis oblique bifidis margine inalata serrulatis, squama lanceolata acuta castanea margine albo-hyalina vix longioribus. (Tab. CCXV.)

Hab. Columbia River. *Scouler.*

Culmus tripedalis sulcatus, apice hispidulus, basi alterne foliatus, folia longissime superans. *Folia* lin. $1\frac{1}{2}$ lata, stricta, apice triquetra, scabra, superius vix pedale. *Spica* sesquiuncialis. *Spiculæ* 7-9 lin. longæ, 3 lin. latæ, arcte contiguæ albo-castaneæ. *Squamæ* lanceolatæ, margine hyalina latiuscula cintæ. *Perigynium* $3\frac{8}{9}$ lin. longum, lineam latum, apice lineaque media castaneum, læviter nervosum, ore antice profundius fisso, squamam subæquans. *Achenium* oblongum obtusum, pallide stramineum, $1\frac{4}{9}$ lin. longum, $\frac{5}{9}$ lin. latum, basi in stipite brevi productum, styli terminatum.

Tab. CCXV. *Fig.* 1, Female Flower ; *f.* 2, 3, Perigynia :—*magnified.*

59. *C. festiva. Dewey.*

Hab. Cumberland House, Bear Lake. *Dr Richardson.* Rocky Mountains. *Drummond.* Greenland. *Hornemann in Herb. Hooker.*

60. *C. cristata. Schw. Mon. t.* 25. *f.* 1.

Hab. Lake Winnipeg. *Dr Richardson.* Cumberland House. *Drummond.*

61. *C. festucacea. Schk. f.* 173.

Hab. British America. *Torrey.*

62. *C. adusta* (Boott) ; spica composita e spiculis 4-10 pluribusve omnibus simplicibus vel inferioribus compositis basi masculis, stigmatibus 2, perigyniis ovatis acuminato-rostratis bifidis plano-convexis turgidis superne anguste alatis serrulatis, dorso 10-12 leviter nervosis squamam æquilatam acutam æquantibus.

Hab. Common in British America. *Dr Richardson. Drummond.* Rocky Mountains. *Drummond.* N. W. Coast. *Douglas.*—β. *minor, angustifolia.* Carlton House. *Dr Richardson.*

Culmus subsesquipedalis, obtusangulus glaber, vel apice scabriusculus nudus. *Folia* 1-2 lineas lata, glabra, margine scabriuscula partem inferiorem dimidiam culmi vaginantia, sæpe transversim corrugata maculisque quasi adustis notata. *Bractea* ad basin spiculæ inferioris secundæque interdum foliacea spicam subæquans : vel omnes breves squamæformes, inferior solum brevi-mucronata. *Spiculæ* omnes simplices, alternæ approximatæ, extremæ majores basi magis attenuatæ huic demum clavatæ : mediæ ovatæ : inferiores remotiusculæ :—vel spiculæ superiores solum simplices, inferior vel spiculæ duæ inferiores compositæ, e spiculis 3-4 in spicam brevem vel elongatam dispositis. *Squamæ* lanceolatæ, acutæ, stramineæ vel pallido-ferrugineæ, nervo viridi, perigynium longitudine et latitudine subæquans. *Perigynium* 2 lin. longum, 1 lin. latum, ovatum acuminato-rostratum, bifidum, viride, plano-convexum, facie convexa leviter 10-12 nervosum, altera nisi basi enerve, marginibus ad basin obtusis, superne anguste alatis serrulatis. *Achenium* $1\frac{1}{3}$ lin. longum, $\frac{7}{9}$ lin. latum, suborbiculato-oblongum, fusco-castaneum, biconvexum basi styli æquali apiculatum.

63. *C. straminea. Schk. f.* 174.

Hab. British America. *Dr Richardson. Drummond.* Columbia River. *Douglas.*—β. *minor.* C. tenera. *Dewey.* Lake Winnipeg. *Dr Richardson.*

+ *Stigmatibus* 3.

64. *C. macrocephala. Willd.* (Tab. CCXVI.)—S. Menziesiana, *Sm. Herb.*

Hab. N. W. Coast. *Douglas. Menzies.*

Tab. CCXVI. *Fig.* 1, Perigonium and scale ; *f.* 2, Perigonium :—*magnified.*

C. Spica terminalis androgyna vel mascula, reliquæ plerumque femineæ, pedunculatæ.

* Stig. 2.

65. *C. bicolor. Allion.—Schk. f.* 181.

Hab. Labrador. *Schweinitz.* Greenland. *Hornemann in Herb. Hooker.*

** Stigmatibus 3.

66. *C. Vahlii. Schk. f.* 94. 154.—C. media? *R. Br.*

Hab. Common in British America, to Arctic Coast. *Dr Richardson.* Rocky Mountains. *Drummond.* Greenland. *Hornemann in Herb. Hooker.*

67. *C. atrata. L.—Schk. f.* 77.

Hab. Rocky Mountains. *James. Torrey. Drummond.* Arctic America. *Parry.* N. America. *Herb. Banks.*

68. *C. ovata. Rudge, in Lin. Trans.* 7. *p.* 96. *t.* 9. *f.* 1.

Hab. Newfoundland. *Rudge.* Rocky Mountains. *Drummond.*

69. *C. canescens. L.—Schk. t.* x. *Gg.* 76.—C. Buxbaumii. *Wahl.—Torr.*

Hab. Canada. *Todd.* Cumberland House, Lake Winnipeg. *Dr Richardson.* Observatory Inlet. *Scouler.* Sitcha. *Bongard.*

70. *C. Gmelini. Hooker, Bot. of Beechey Voy. t.* 27. *Gmelin, Fl. Sib.* 1. *t.* 30. *f.* 1.

Hab. N. W. Coast. *Menzies.* Kotzebue's Sound. *Beechey.*

71. *C. petricosa. Dewey.*

Hab. Rocky Mountains. *Drummond.*—Affinis C. *ferrugineæ Schk.* et C. *tristi, Bieb.*

72. *C. hirsuta. Willd.—Schk. f.* 172.—C. triceps. *Mich.*

Hab. Canada. *Torrey.*

73. *C. Parryana. Dewey.*—C. arctica. *Dewey.*—C. stylosa? *Meyer, t.* 12.

Hab. Carlton House. *Dr Richardson.* Sitcha. *Bongard.*

Nullo modo distinguenda; spica terminalis sæpius androgyna!

74. *C. miliacea. Muhl.—Schk. f.* 151.

Hab. Canada. *Cleghorn.*

Spica terminalis sæpe androgyna!

75. *C. debilis. Mich.*—C. flexuosa. *Schk. f.* 124.—C. tenuis. *Rudge, Lin. Trans.* 7. *t.* 9. *f.* 2.

Hab. Canada to Norway House. *Dr Richardson.*

76. *C. gracillima. Schw.*—C. digitalis. *Schw. Mon. t.* 26. *f.* 1.

Hab. Canada to Norway House. *Dr Richardson.*

77. *C. Mertensii. Prescott.* (Tab. CCXVII.)—C. Columbiana. *Dewey.*

Hab. N. W. Coast. *Menzies.* Sitcha. *Bongard.*

Tab. CCXVII. *Fig.* 1, Female Flower; *f.* 2, 3, Perigynia; *f.* 4, Achenium:—*magnified.*

78. *C. pedunculata. Muhl.—Schk. f.* 131.

Hab. Canada. *Todd. Cleghorn. Mrs Sheppard.* Cumberland and Norway House. *Dr Richardson. Drummond.* Rocky Mountains. *Drummond.*

79. *C. Franklinii* (Boott); spicis 6-9 apice masculis superioribus congestis sessilibus inæqualibus inferioribus alternis pedunculatis nutantibus, stigmatibus 3 (2), perigyniis oblongo-ovatis hispidis ore membranaceo oblique bifido squama hispida mucronulata longioribus. (Tab. CCXVIII.)—C. ovata. *Dewey,—Torr.*

Hab. Rocky Mountains, *Drummond.*

Radix cæspitosa, fibris ferrugineis. *Culmus* bi-tripedalis, pars spicas gerens 3-5 pollicaris, strictus, nudus (rarissime folium vaginans infra spicas gerens), inferne obtusangulus glaber, superne angulis acutioribus hispidulus, reliquiis foliorum laceratis basi tectus. *Folia* radicalia culmo breviora, latitudine admodum varia, quædum setacea, alia lineam lata, scabra, margine hispida, superne attenuata. *Spicæ* 6-9 ferrugineæ, insigniter inæquales, 5-11 lineas longæ, 1-3 lineas latæ, ovatæ, quædam lineares, aliæ oblongo-ellipticæ. *Spica* terminalis, ovata, apice conspicue mascula, ad ejus basin 1-3 arcte sessiles lineares tote masculæ vel flosculis fœmineis paucis basi instructæ, ebracteatæ; intermediæ subsessiles approximatæ; inferiores deorsum longius exserte pedunculatæ vel androgynæ vel tote fœmineæ; infima basi laxiflora et rarius composita (spicula unica basi aucta) subremota. *Squamæ* ferrugineæ nervo pallido margine albo-membranaceæ late ovatæ acuminatæ mucronulatæque dorso versus medium hispidæ. *Pedunculi* triquetri, hispidi, 2 lin. ad 2 poll. longi. *Bracteæ* foliaceæ angustæ sursum decrescentes, vaginatæ, inferior culmum paululum superans. *Perigynium* $2\frac{1}{3}$ lin. longum, lineam latum, ellipticum vel oblongo-ovatum, compressum, ore membranaceo oblique bifido, nervosum, superne ferrugineum hispidum, inferne pallidum glabrum. marginibus serrato-scabrum. *Achenium* oblongo-triquetrum, longe stipitatum, $\frac{7}{9}$ lin. longum (cum stipite lineam longum) $\frac{4}{9}$ lin. latum, pallide castaneum.

Tab. CCXVIII. *Fig.* 1, Female Flower; *f.* 2, Perigynium; *f.* 3, Achenium:—*magnified.*

D. Spica terminalis mascula 1 vel plures, reliquæ fœmineæ.

* Stig. 2.

80. *C. rigida. Good.*—C. saxatilis. *Fl. Dan.—Torrey.—Schk. f.* 40.

Hab. Common in British America, to the Arctic Coast. *Dr Richardson. Drummond.* Greenland. *Hornemann, in Herb. Hooker.* Labrador. *Torrey.*

81. *C. cæspitosa. L.—Schk. f.* 85.—C. concolor. *R. Br.*

Hab. Canada to the Arctic Coast. *Dr Richardson.* Kotzebue's Sound. *Beechey.* Sitcha. *Bongard.*

82. *C. aperta* (Boott); spica mascula 1-2 oblongo-cylindrica acuta, fœmineis 2-4 oblongis superioribus approximatis sessilibus apice masculis inferiori remota pedicellata sæpe tota fœminea, stigmatibus 2, perigyniis orbiculatis stipitatis enerviis pellucide punctatis abrupte brevi-rostratis ore bidentato squama ferruginea lanceolata acuta latioribus brevioribusque. (TAB. CCXIX.)

HAB. Columbia River. *Douglas. Scouler.*—β. *angustifolia.* Fort Good Hope. *Dr Richardson.*

Culmus 1½ pedalis, angulis acutis scabris, superne nudus, basi vaginis atro-purpureis tectus. *Folia* 1½ lin. lata erecta, margine apiceque triquetra acuta scabra, culmo breviora. *Bractea* ferrugineo-auriculata, inferior foliacea vix culmum æquans, superiores setaceæ spicis suis breviores. *Spica mascula* 1-2, 1-1½ poll. longa, 2 lin. lata, inferior brevior sessilis, squamis ferrugineis obtusis. *Spicæ fœmineæ* 2-4, 7-13 lin. longæ, 2-3 lin. latæ, erectæ, approximatæ, sessiles, apice masculæ, inferior remota pedicellata; sæpe totæ fœmineæ (uno exemplo spicæ fœmineæ 14-21 lin. longæ, inferior basi composita) squamis ferrugineis lanceolatis acutis apertis perigynia superantibus. *Perigynium* orbiculatum stipitatum enervium abrupte brevi-rostratum, sæpe apice serraturis paucis maculisque ferrugineis notatum, interdum ferrugineum apice glaucum, ore bidentato, 1⅔ lin. longum (cum stipite 1⅔ lin. longum,) lineam latum. *Achenium* ⅞ lin. longum, ⅝ lin. latum, orbiculatum, basi styli apiculatum, stramineo-pallidum, compressum.

Dif. a *C. cæspitosa* perigyniis orbiculatis stipitatis enerviis bidentatis squama lanceolata acuta aperta brevioribus.

TAB. CCXIX. *Fig.* 1, Perigynium and scale; *f.* 2, 3, Perigynia; *f.* 4, Achenium :—*magnified.*

83. *C. angustata* (Boott); spicis masculis 1-2 cylindricis, fœmineis 1-4 plerumque 2-3 acutis apice masculis gracilibus cylindricis subsessilibus, stigmatibus 2, perigyniis ovato-acuminatis vel ellipticis ore integro squama ferruginea lineari obtusa plerumque brevioribus latioribusque.—C. acuta. *Dewey,—Torrey.*

HAB. Columbia River. *Scouler. Tolmie.*

Culmus bipedalis, gracilis, superne scaber. *Folia* 1-2 lin. lata, carina margineque scabra, culmo breviora, vaginis inferioribus in filis reticulatis rumpentibus. *Bractea* anguste foliacea, serrato-scabra; inferior rotundato-auriculata spica sua longior, rarius culmum subæquans; superior setacea auriculato-dilatata. *Spicæ masculæ* 1-2, terminales, 1-1½ poll. longæ, lineam latæ, pedicellatæ: inferior brevior sessilis, squamis ferrugineis obtusis. *Spicæ fœmineæ* 1-2½ poll. longæ, 2 lin. latæ, superior sessilis semper androgyna, sæpe plusquam dimidiatim apice mascula: secunda subsessilis androgyna; inferior longior brevi-pedicellata basi laxiflora tota fœminea vel apice flosculis masculis paucis instructa. *Squamæ* vivide ferrugineæ, nervo viridi, margine membranaceo, inferiores lanceolatæ acutæ, superiores lineares obtusæ, plerumque perigyniis longiores et angustiores. *Stig.* 2. brevia. *Perigynium* 1⅔-1⅘ lin. longum, ⅔ lin. latum, viride vel glaucum, enervium, vel nervis 2-4 utrinque notatum, pellucido-punctatum ore integro vel leviter emarginato, rarius serraturis 2-3 hispido. *Achenium* orbiculatum ⅚ lin. longum, ⅘ lin. latum, basi brevi productum, vel ⅘ lin. longum, ⅔ lin. latum, pallide stramineum, pellucidum, basi styli apiculatum.

Affinior *C. strictæ* quam *C. acutæ.* Canada and in South America.—β. *verticillata.* Spica mascula 1, fœmineis 4 rarius apice masculis, inferiori nutante basi interrupta, perigyniis verticillatim dispositis, squamis nigrescentibus, perigyniis minoribus, culmo glabro.

84. *C. stricta. Good.—Schk. f.* 73.

HAB. Columbia River. *Douglas. Scouler.*

85. *C. lenticularis. Mich.*

Hab. Canada to Mackenzie River. *Dr Richardson.*

Spica terminalis sæpe mascula.

86. *C. aquatilis. Wahl.*

Hab. Canada to Mackenzie River. *Dr Richardson. Drummond.* Rocky Mountains. *Drummond.*

87. *C. physocarpa. Presl,—Kunth. Cyp.* 420.

Hab. Nootka Sound. *Presl.*

88. *C. cryptocarpa. Meyer, t.* 14.—C. Scouleri? *Torrey.*

Hab. Clemincitty Harbour. *Tolmie.* Sitcha. *Bongard.*

Vix à *C. salina, β. Wahl.* distincta!

89. *C. salina. Wahl.—Schk. f.* 185.

Hab. Hood's Canal, Soquamish Country. *Tolmie.* Hudson's Bay and Cumberland House. *Drummond.* Kotzebue's Sound. *Beechey* ("*C. stricta*"). Greenland. *Hornemann in Herb. Hooker.*—β. Wahl.—*C. lanceolata. Dewey.* Hudson's Bay and Cumberland House. *Drummond.*

90. *C. Hoppneri* (Boott); spica mascula 1 lineari, fœmineis 2 ovatis paucifloris sessilibus, stigmatibus 2, perigyniis ellipticis plano-convexis erostratis ore indiviso squama ovata obtusa mucronulata nigro-ferruginea longioribus. (Tab. CCXX.)

Hab. Cumberland House and Hudson's Bay. *Drummond.* Greenland. *Hornemann in Herb. Hooker.*

Culmus gracilis, 3-5 pollicaris, obtusangulus, sulcatus, glaber. *Folia* angustissima, eximie involuta, apice triquetra scabra culmo breviora. *Sterilia* sexpollicaria, omnia ab involutionem quasi setacea. *Spica mascula* 6-8 lin. longa, vix lineam lata, squamis oblongis obtusis, rarius mucronulatis, ferrugineis. *Spicæ fœmineæ* 2 ovatæ, 3-5 lineas longæ, 2 lin. latæ, sub 12-floræ, superior sessilis, inferior brevi-pedunculata intervallo 2-10 lin. remota. *Bracteæ* basi planæ spicas circumvolventes iisque multum longiores culmum æquantes, nervosæ, emarginatæ, nigro-auriculatæ. *Perigynium* $1\frac{5}{9}$ lin. longum, $\frac{7}{9}$ lin. latum, plano-convexum ellipticum interdum apiculatum, ore indiviso vel subemarginato, enervium, superne ferrugineum, inferne stramineo-pallidum. *Squama* subrotundo-ovata obtusissima, interdum mucronulata, nigro-ferruginea, nervo pallido, $\frac{1}{3}$-$\frac{1}{2}$ longius. *Achenium* lineam longum, $\frac{2}{3}$ lin. latum, plano-convexum ellipticum, basi attenuatum basi styli æquali terminatum, ferrugineum.

Tab. CCXX. *Fig.* 1, Perigynium and scale; *f.* 2, Perigynia; *f.* 3, Achenium:—*magnified.*

91. *C. maritima. Muller.—Schk. f.* 74.

Hab. Hudson's Bay and Cumberland House. *Drummond.*

92. *C. crinita. Lam. Enc.—Schk. f.* 125. 164.

Hab. Canada to Norway House. *Dr Richardson. Drummond.*

93. *C. macrochæta. Meyer, t.* 13.—C. spectabilis. *Dewey.*

Hab. Fort Vancouver. *Garry.* Sitcha. *Bongard.* Rocky Mountains. *Drummond.*

94. *C. Sitchensis. Prescott.* (Tab. CCXXI.)

Hab. Sitcha. *Bongard.* Columbia River. *Douglas. Scouler.* Puget's Sound, Soquamish Country. *Tolmie.*

Tab. CCXXI. *Fig.* 1, Female Flower; *f.* 2, Perigynium; *f.* 3, Achenium:—*magnified.*

95. *C. recta* (Boott); spicis masculis 2 oblongis inferiori pedunculata, fœmineis 3-4 cylindricis pedunculatis strictis erectis, stigmatibus perigyniis subrotundo-obovatis glaucis lævibus cylindrico-rostratis ore integro squama lanceolata aristata nigro-purpurascente duplo brevioribus. (Tab. CCXXII.)

Hab. Labrador. *Herb. Hooker.*

Culmus 1½ pedalis, strictus, superne scaber. *Folia* 2 lineas lata stricta acuminata superne marginibus apiceque triquetra scabra culmo breviora, sub 8 pollices longæ. *Bracteæ* foliaceæ evaginatæ, apice attenuatæ culmum superantes, superne serrato-scabra, auricula amplectente obtusa ferruginea. *Spicæ masculæ* 6-12 lineas longæ, fœmineis approximatæ, squamæ ferrugineæ, inferiores obtusæ albo-marginatæ, superiores acutiores, nervo sæpe in aristam brevissimam producto. *Spicæ fœmineæ* 1-2 poll. longæ, 2 lin. latæ, strictæ, erectæ, duæ superiores flosculis masculis 2-3 apice instructæ, intervallis 1-1½ poll. remotæ: inferior interdum remotior, basi laxiflora. *Squamæ* nigro-purpurascentes, nervo pallido, inferiores aristatæ. *Pedunculi* 4-13 lin. longi. *Perigynium* subrotundo-obovatum, glaucum, lævissimum, rostro brevi cylindrico ore integro vel minime emarginato, 1⅔ lin. longum, ⅔ lin. latum. *Achenium* immaturum.

Tab. CCXXII. *Fig.* 1, Female Flower; *f.* 2, Perigynium; *f.* 3, Achenium:—*magnified.*

96. *C. compacta. R. Br.—Dewey.*—C. Jamesii? *Torrey.*

Hab. Rocky Mountains. *Drummond. James.*

97. *C. saxatilis. L.*—C. pulla. *Good. Lin. Trs. t.* 14.

Hab. Rocky Mountains. *Drummond.*

** Stig. 3.

† *Perigynia inflata, plus minus longe rostrata.*

98. *C. membranacea. Hooker, in Parry 2d Voy.*

Hab. Southampton Island. *Capt. Parry.* North Somerset, Duckett Cove. *Ross.* Kotzebue's Sound. *Beechey.* Cumberland House to Arctic Coast. *Dr Richardson.* Greenland. *Hornemann, in Herb. Hook.* —"*C. rotundata.*"

99. *C. rotundata. Wahl.*

Hab. Slave Lake. Fort Enterprize. *Dr Richardson.* (*Herb. Banks*).—The leaves of this species are involute, and on comparing the specimens with one from Wahlenberg, I can see no difference. The preceding (*C. membranacea*) is closely allied to this, but the leaves are flat, and the spikes are longer.

100. *C. oligosperma. Mich.*—C. Oakesiana. *Dewey.*

Hab. Cumberland House to Bear Lake. *Dr Richardson.*

101. *C. bullata. Schk. f.* 166.

Hab. Canada. *Torrey.*—β. *cylindracea. Dewey.* Canada to Norway House. *Dr Richardson. Drummond.*

102. *C. ampullacea. Good.—Schk. f.* 107.

Hab. Cumberland House, Bear Lake. English River. *Dr Richardson.*

103. *C. utriculata* (Boott); spicis masculis 3-4 cylindricis elongatis intermediis sessilibus, fœmineis 3-4 crassis, inferioribus pedunculatis basi laxifloris, stigmatibus 3, perigyniis oblongo-ellipticis acuminatis cylindrico-rostratis bicuspidatis nervosis stramineo-pallidis squama lanceolata acuminata hispido-aristata plus minus longioribus.—C. vesicaria. *Dewey. Torrey.*—C. ampullacea. *Dewey.*

Hab. British America. *Dr Richardson. Drummond.*—β. *minor.* Perigyniis spicisque brevioribus densifloris.—British America. *Dr Richardson.* Rocky Mountains. *Drummond.*

Culmus bi-tripedalis, inferne crassus spongiosus, apice triqueter scaber. *Folia* 4½ lin. lata, longissima, nodosa, striato-nervosa; carina margineque scabra, basi culmum amplectentia. *Bracteæ* foliaceæ, culmum longe superantes, auricula obtusa amplectente. *Spicæ masculæ* graciles 1-2½ pollices longæ, lineam latæ, inferiores bracteatæ: squamæ lanceolatæ, acutæ, pallide ferrugineæ, apice membranaceo-albidæ. *Spicæ* ferrugineæ 2½ ad 4 pollices longæ, 7-8 lin. latæ, superiores sessiles, interdum apice masculæ; inferiores brevipedunculatæ, apice densi-(basi laxi)-floræ, intervallis 1½ ad 3½ poll. remotæ, squamæ ovato-lanceolatæ, acutissimæ, inferiores præcipue in aristam longam scabram productæ, perigynio sæpe vix breviores. *Perigynium* 4⅓ lin. longum, 1½ lin. latum, oblongo-ellipticum, brevissime pedicellatum, acuminatum, cylindrico-rostratum, bicuspidatum, nervosum, divergens. *Achenium* minimum, ⅔ lin. longum, ½ lin. latum, triquetrum. *Stylus* longus. *Stig.* 3, brevia.

104. *C. vesicaria. L.—Schk. f.* 106.

Hab. Sitcha. *Bongard.*—β. Columbia River. *Douglas. Scouler.*

β. *major;* Perigyniis (vix maturis) 4 lin. longis ovato-lanceolatis, longe acuminatis fuscis, squama mutica triplo longioribus, foliis 3 lin. latis, vaginis inferioribus in filis reticulatis rumpentibus; *spicis fœmineis* bipollicaribus.

105. *C. subulata. Mich.—Schw. Mon. t.* 26. *f.* 1.

Hab. Canada. *Michaux.*

106. *C. folliculata. L.—Rudge, in Lin. Trs. t.* 9. *f.* 4.—C. xanthophysa. *Wahl.*—C. rostrata. *Mich.*

Hab. Canada. Lake Mistassins. *Michaux.*

107. *C. intumescens. Rudge, in Lin. Trs. t.* 9. *f.* 3.—C. folliculata. *Schk. f.* 52. *Mich.*

Hab. Canada to Norway House. *Dr Richardson.*

108. *C. lupulina. Muhl.—Schk. f.* 194.

Hab. Hudson's Bay. *Torrey.*

109. *C. retrorsa. Schw. Mon. t.* 28. *f.* 2.

Hab. Cumberland House. *Drummond.* Rocky Mountains. *Torrey.*

110. *C. scabrata. Schw. t.* 26. *f.* 2.

Hab. Canada. *Cleghorn, in Herb. Hooker.*

111. *C. Schweinitzii. Dewey.*

Hab. Canada. *Torrey.*

112. *C. hystericina. Muhl.—Schk. f.* 127.

Hab. Canada. *Torrey.*

113. *C. tentaculata. Muhl.—Schk. f.* 130.—C. rostrata. *Schk. f.* 134.

Hab. Canada. *Torrey.*

114. *C. pseudo-cyperus. L.—Schk. f.* 102.

Hab. Cumberland House. *Dr Richardson.*

115. *C. trichocarpa. Muhl.—Schk. f.* 148.

Hab. British America. *Torrey.*

116. *C. aristata. R. Br.*—C. atherodes. *Spreng.*

Hab. Carlton House. *Dr Richardson.* Cumberland House. *Drummond.*

117. *C. longirostris. Torrey.*

Hab. Carlton House. *Dr Richardson.* Rocky Mountains. *Drummond.*

†† *Perigynia villosa.*

118. *C. umbellata. Schk. f.* 171.

Hab. British America. *Dr Richardson.* Rocky Mountains. *Drummond.*

119. *C. Rossii* (Boott); spica mascula 1, fœmineis 4 bracteatis, superioribus approximatis evaginatis, inferioribus subradicalibus longissime exserte pedunculatis, suprema sessili, omnibus laxe paucifloris, stigmatibus 3, perigyniis ovalibus utrinque attenuatis basi in stipitem productis longiuscule rostratis bifidis binervosis pubescentibus squamam ovato-lanceolatam acutam subæquantibus.

Hab. N. W. Coast. *Douglas.* Rocky Mountains. *Drummond.*

Culmi plures ex eadem radice, gracillimi, acutanguli, scabri, basi rudimentis foliorum purpureo-sanguineis tecti, 6-8 pollicares, superne nudi. *Folia* setacea vel lineam lata, culmo breviora vel longiora, supra papilloso-scabra, margine apiceque triquetra, hispida, infra carinata nervoso-sulcata, vaginis sæpe in filis reticulatis rumpentibus. *Bracteæ* foliaceæ, angustæ, superiores evaginatæ culmum superantes; inferiores vaginatæ

pedunculo suo multum breviores. *Spica mascula* 4 lineas longa, 6-8 flora, brevi-pedunculata, squamis oblongis nervo viridi, plus minus ferrugineis margine membranaceis, infima sæpe mucronata. *Spicæ fœmineæ* 4, sub 5-floræ, flosculis alternis laxis; duæ superiores in apicem culmi spicæ masculæ approximatæ, evaginatæ, suprema sessilis, altera brevi-pedunculata; duæ inferiores remotæ, una longissime exserte pedunculata (pedunculo 4 poll. longo, bractea eo multum breviori instructa) altera (infima) radicalis pedunculo pollicari bracteaque eo paululum longiori suffulta, vel spicæ superiores 3, approximatæ, suprema sessilis, alteræ evaginatæ brevi-pedunculatæ, infima remota subradicalis longissime exserte pedunculata. *Squamæ* ovato-lanceolatæ, acuminatæ, perigynia subæquantes, inferiores, plus minus hispido-mucronatæ iis longiores, nervo viridi, margine membranacea. *Perigynium* $1\frac{2}{3}$ lin. longum, $\frac{2}{3}$ lin. latum, ovale, inequaliter biconvexum, e marginibus rostri hispidi nervis duobus approximatis notatum; basi in stipite ferruginea productum, longiuscule hispido-rostratum bifidum, viride, pubescens. *Achenium* stipitatum, $\frac{5}{9}$ lin. longum, (cum stipite lineam longum) $\frac{6}{9}$ lin. latum, glaucum, triquetro-rotundum, obtusum, basi styli terminatum.

Prox. C. umbellata. *Schk.* Differt inflorescentia, spicis laxi-pauciflоris.

120. *C. Pennsylvanica. Lam. Enc.* 3. 388.—C. marginata. *Muhl.*—*Schk. f.* 143.

Hab. British America. *Dr Richardson.* Rocky Mountains. *Drummond.*

121. *C. varia. Muhl.*—*Schk. f.* 167.—β. minor. C. Emmonsii. *Dewey. Torrey.*—C. Novæ Angliæ. *Schw.*—C. collecta. *Dewey.*

Hab. British America. *Dr Richardson. Drummond.*—β. British America. *Dr Richardson.* Rocky Mountains. *Drummond.* Greenland. *Hornemann, in Herb. Hooker.* "*C. deflexa.*"

122. *C. concinna. R. Br.*—C. ornithopoda. *Dewey. Torrey.*

Hab. Cumberland House to Mackenzie River. *Dr Richardson.* Rocky Mountains. *Drummond.* N. W. Coast. *Douglas. Scouler.*

123. *C. Richardsoni. R. Br.*—(Tab. CCXXIII.)

Hab. Norway and Cumberland House. *Dr Richardson. Drummond.* Rocky Mountains. *Drummond.* N. W. Coast. *Douglas.*

Tab. CCXXIII. *Fig.* 1, Perigynium and scale; *f.* 2, Perigynium; *f.* 3, Achenium:—*magnified.*

124. *C. filiformis. L.*—*Schk. f.* 45.—C. striata. *Mich.*

Hab. Norway House. *Dr Richardson.* Cumberland House. *Drummond.*

125. *C. lanuginosa. Mich.*—C. pellita. *Muhl.*—*Schk. f.* 149, 150.

Hab. Lake Mistassins. *Mich.* Canada to Mackenzie River. *Dr Richardson. Drummond.* Columbia River. *Scouler.*

126. *C. Houghtonii. Torrey.*

Hab. Lake La Biche. *Houghton. Torrey.* Hudson's Bay and Cumberland House. *Dr Richardson. Drummond.*

127. *C. pubescens. Muhl.*—*Schk. f.* 126.

Hab. Canada. *Torrey.*

††† *Perigynia lævia. Spicæ purpureæ vel nigræ.*

128. *C. rariflora. Smith.—Eng. Bot. t.* 2516.—C. limosa, *γ. Wahl.*

Hab. Lake Mistassins. *Michaux.* Fort Franklin. Mackenzie River. *Dr Richardson.*

129. *C. irrigua. Smith.—Hoppe, Car. Ger. t.* 92.—C. limosa. *β. Wahl.*—C. paupercula. *Mich.*

Hab. Norway House. *Dr Richardson.*

130. *C. limosa. L.—Schk. f.* 78.—C. laxa. *Dewey.*

Hab. British America. *Dr Richardson. Drummond.* Rocky Mountains. *Drummond.* Sitcha. *Bongard.* N. W. Coast. *Tolmie.*

131. *C. livida. Willd.—Schk. f.* 211.—C. limosa, *δ. Wahl.*—C. Grayana. *Dewey.*

Hab. Hudson's Bay. Carlton and Cumberland House. *Dr Richardson. Drummond.* Rocky Mountains. *Drummond.* Sitcha. *Bongard.* N. W. Coast. *Tolmie.*

132. *C. miliaris. Mich.*

Hab. Canada. Lake Mistissins. *Michaux.*—an forma *C. lividæ?*

133. *C. fuliginosa. Sternb. and Hoppe, Car. Ger. t.* 54.—C. misandra. *R. Br.*

Hab. Spitzbergen. *Parry.* Repulse Bay. *Ross.* Arctic sea-coast. *Dr Richardson.*

134. *C. ustulata. Wahl.—Schk. f.* 82.

Hab. Labrador. *Schweinitz. Torrey.*

135. *C. podocarpa. R. Br.* (Tab. CCXXIV.)

Hab. Arctic America. *Dr Richardson.*

Tab. CCXXIV. *Fig.* 1, Female Flower; *f.* 2, Perigynium; *f.* 3, Achenium :—*magnified.*

136. *C. nigra. Allion.—Schk. f.* 115.

Hab. Labrador. *Schweinitz. Torrey.*

137. *C. Tolmiei* (Boott); spica mascula 1, fœmineis 4-8 fusco-nigris ovatis oblongo-cylindricisque approximatis, superiori sessili, reliquis pedunculatis bracteatis evaginatis inferiori remota nutante, stigmatibus 3, perigyniis triquetro-ellipticis cylindrico-rostratis ore obliquo indiviso obsolete nervosis nigro-fuscis colore pallido intertinctis squama fusca lanceolata brevioribus et longioribus.

Hab. Columbia River. *Tolmie.*

Culmus 1-1½ pedalis, triqueter, glaber, firmus, strictus, basi foliatus, reliquiis laceratis pallidis rudimentisque fuscis striatis foliorum tectus, pars spicas gerens 3-4 pollicaris. *Folia* 1-2 lineas lata, firma, carinata, superiora longiora culmo breviora, superne margine scabra, apice triquetra acuta. *Bracteæ* foliaceæ, fusco-auriculatæ,

evaginantes : inferiores 1-1½ lin. latæ culmum æquantes, sursum decrescentes. *Spica mascula* 6-8 lin. longa ½ lin. lata, squamis oblongis obtusis fuscis, nervo pallido. *Spicæ fœmineæ* (rarius flosculis masculis paucissimis apice instructæ) 4-8, tres ad octo lin. longæ, 2 lin. latæ, superiores ovatæ sessiles et brevi-pedunculatæ, inferiores oblongo-cylindricæ longius pedunculatæ, infima subremota nutans, basi laxiflora ; squamis nigro-fuscis concoloribus, vel nervo pallidiori ; inferioribus lanceolatis acutis perigynio longioribus, superioribus ovatis acutiusculis eo brevioribus. *Perigynium* 1½ lin. longum, ½ lin. latum, triquetrum, ellipticum vel ovatum, rostro nigro cylindrico, ore oblique indiviso, nigro-fuscum colore pallido variegatum. *Achenium* ⅞ lin. longum, ⅘ lin. latum, obovato-triquetrum, castaneum, basi styli terminatum.

138. *C. nigella* (Boott) ; spicis masculis 2 inferiori bracteata squamis lanceolatis mucronatis ferrugineis, fœmineis 2-3 spadiceis oblongis approximatis erectis pedunculatis bracteatis evaginatis, perigyniis triquetro-ellipticis cylindrico-rostratis ore obliquo bidentato fuliginosis basi pallidis squama nigra concolori lanceolata mucronata brevioribus, stigmatibus 3.

Hab. Columbia River. *Tolmie.*

Radix repens, fibris lignosis lanatis. *Culmus* subpedalis, acute triqueter, superne scabriusculus, basi foliatus, foliis marcidis rudimentisque foliorum striatis fuscis tectus, pars spicas gerens bipollicaris. *Folia* 1-2 lin. lata, margine scabra, culmo breviora (marcida culmum subæquantia) apice triquetra acuta. *Bracteæ* foliaceæ, nigro-auriculatæ, evaginantes, inferior culmum æquans. *Spicæ masculæ* 2, 4-6 lin. longæ, 2 lin. latæ ; squamis ferrugineis lanceolatis mucronatis. *Spicæ fœmineæ* 2-3, spadiceo-purpureæ concolores, ellipticæ vel oblongæ, basi attenuatæ, 5-7 lin. longæ, 2 lin. latæ, approximatæ, superior sessilis (uno exemplo apice parce mascula), reliquæ pedunculatæ erectæ, squamis lanceolatis acutis mucronatis perigynio (præcipue inferioribus) longioribus. *Perigynium* 1⅔ lin. longum, ⅞ lin. latum, triquetro-ellipticum, cylindrico-rostratum, oblique bidentatum, enervium, impresso-asperatum, spadiceo-purpureum basi pallidum. *Achenium* ⅞ lin. longum, ⅗ lin. latum, oblongo-obovatum, stramineo-pallidum, basi styli æquali terminatum.—Aff. *C. Tolmiei*, dif. perigynio bidentato squamis omnibus lanceolatis mucronatis, spicarum numero.

†††† *Spicæ virides.*

139. *C. microstachya. Ehrh.—Schk. f.* 11.

Hab. Greenland. *Hornemann. Sprengel.*

140. *C. supina. Wahl.—Schk. f.* 41.—C. Schkuhrii. *Dewey.*

Hab. Bear Lake. *Dr Richardson.* Rocky Mountains. *Drummond.* Greenland. *Hornemann, in Herb. Hooker.*

141. *C. Oederi. Ehrh.*—C. viridula. *Mich.* (sp. ter. androgyna.)

Hab. Hudson's Bay. *Michaux.* Niagara. *J. Carey.* Lake Winnipeg. *Drummond.*

142. *C. flava. L.—Schk. f.* 36.

Hab. Canada. *Michaux.* Newfoundland. *Herb. Banks.* Lake Winnipeg. *Drummond.*

143. *C. fulva. Good. in Linn. Trans.* 2. *p.* 178.

Hab. Newfoundland. *Goodenough.*—It seems that Dr Goodenough actually constituted this species on

American specimens, and was afterwards surprised to receive it as an English plant. I have detected a solitary specimen (*in Herb. Hook.*) from B. D. Greene, Esq., which he gathered at Tewksbury near Boston. It has never otherwise been noticed by American botanists.

144. *C. aurea. Nuttall.*—*Schw. mon. t.* 25. *f.* 2.—C. mutica. *R. Br.*

Hab. Canada. *Todd.* Rocky Mountains. *Drummond.* Carlton House, Lake Winnipeg. *Dr Richardson.*

145. *C. pallescens. L.*—*Schk. f.* 99.

Hab. Carlton House. *Dr Richardson.*

146. *C. granularis. Muhl.*—*Schk. f.* 169.

Hab. Quebec. *Mrs Sheppard.*

147. *C. laxiflora. Lam.*—*Schk. f.* 141.

Hab. Canada. *Torrey.*

148. *C. conoidea. Schk. f.* 168.

Hab. Canada. *Todd. Torrey.*

149. *C. oligocarpa. Schk. f.* 170.—C. digitalis. *Willd.*—C. Vleckii. *Spreng.*

Hab. Canada. *Torrey.*

150. *C. phæostachya. Smith.*—C. panicea, β. *Wahl.*—C. vaginata? *Tausch.*—C. subspathacea. *Wormsk.*

Hab. Fort Norman. Mackenzie River. *Dr Richardson.* Rocky Mountains. *Drummond.* Greenland. *Hornemann.*—C. refracta, *Schk. f.* 136, forsan forma hujus speciei.

151. *C. anceps. Muhl.*—C. plantaginea. *Muhl.*—*Schk. f.* 195.—β. blanda. C. blanda. *Dewey.*

Hab. Canada. *Mrs Sheppard.* Carlton House. *Dr Richardson.* Rocky Mountains. *Torrey.*

152. *C. plantaginea. Lam. Enc.* 3. 398.—C. latifolia. *Schk. f.* 70.

Hab. Norway and Carlton House. *Drummond.*

153. *C. eburnea* (Boott); spica mascula 1, fœmineis 3-4 erectis exserte pedunculatis subquinquefloris, superioribus masculam superantibus approximatis inferiori remota, stigmatibus 3, perigyniis triquetro-obovatis fusco-olivaceis obsolete nervosis nitidis brevi crassiuscule rostratis ore hyalino oblique fisso squama latiori hyalina obtusa longioribus. (Tab. CCXXV.)—C. alba. var. setifolia, *Dewey.*—C. paupercula. *Torrey* (*non Mich.*).

Hab. Mackenzie River. Cedar Lake. Fort Norman. *Dr Richardson.* Rocky Mountains. *Drummond.*

Cæspitosa. *Radix* late repens, fibris tenuibus longis lignosis. *Culmi* plures ex eadem cæspite, gracillimi,

setacei, obtusanguli, glabri, sulcati, 4-13 pollicares, nudi, foliis longiores. *Folia* $\frac{2}{3}$ lin. lata, ob involutionem eximiam setacea, margine apiceque triquetra scabra, basi vaginis rudimentisque foliorum pallide stramineis tecta. *Spica mascula* 3 lin. longa, $\frac{1}{2}$ lin. lata, erecta, sub 8-flora, subsessili, brevissime incluse pedunculata, ex eadem vagina cum spica fœminea superiori eâque brevior, squamis albis oblongis obtusis. *Spicæ fœmineæ* 2-4, plerumque 3, erectæ, 4-6-floræ, exserte pedunculatæ, superiores spicam masculam superantes approximatæ, infima vel duæ inferiores subremotæ, 2 lin. longæ, 1 lin. latæ. *Pedunculi* glabri, 2-8 lin. longi, sursum decrescentes, striati, erecti, vaginæ membranaceæ pallide ferrugineæ, apice albo-hyalina, obtusæ, inferior rarius in foliolum brevissimum scabrum producta. *Squamæ fœmineæ* albo-hyalinæ, basi nervoque pallide ferrugineæ, obtusæ, basi amplectentes, perigynio latiores brevioresque. *Perigynium* $\frac{7}{9}$ lin. longum, lin. latum, viride, demum fusco-olivaceum, nitidum, obsolete nervosum, triquetro-obovatum, abrupte brevi-rostratum, rostro crassiusculo ore albo hyalino oblique fisso. *Achenium* $\frac{5}{9}$ lin. longum, $\frac{3}{9}$ lin. latum, triquetro-ellipticum, nitidum, fusco-olivaceum.—Proximam affinitatem cum *C. alba*, Scop. habet, sed omnibus partibus minor. *C. alba*, foliis latioribus, perigyniis $1\frac{2}{3}$ lin. longis, $\frac{7}{9}$ lin. latis ellipticis (nec abrupte rostratis) striato-nervosis, squamis fœmineis acutis, spica mascula longe exserte pedunculata gaudet.

C. paupercula, Mich. "spiculis pendulis, fœmineis subglobosis, squamis acutissimis, capsulis brevioribus muticis" ad *C. irriguam* referenda, fide amiciss. C. Le Mann, e spec. authentic. in Herb. Paris. regali asservato.

Hab. Mackenzie River. Cedar Lake. Fort Norman. *Dr Richardson.* Rocky Mountains. *Drummond.*

Tab. CCXXV. *Fig.* 1, Female Flower; *f.* 2, Perigynium; *f.* 3, Achenium:—*magnified.*

154. *C. capillaris. L.—Schk. f.* 56.

Hab. Fort Norman. Bear Lake. *Dr Richardson.* Rocky Mountains. *Drummond.*

155. *C. flexilis. Rudge, in Lin. Trans.* 7. *t.* 10. *f.* 1.—C. blepharophora. *Gray. Torrey.*

Hab. Newfoundland. *Rudge.*

156. *C. arctata* (Boott); spica mascula 1 cylindrica, fœmineis 3-4 gracilibus laxifloris basi attenuatis longe exserte pedunculatis nutantibus remotis, stigmatibus 3, perigyniis ellipticis triquetris nervosis brevi-rostratis ore bidentato squama ovata acuminata mucronata longioribus.—C. sylvatica. *Dewey. Torrey.*

Hab. Canada. *Goldie. Todd. Torrey.*

Culmus sub $1\frac{1}{2}$ pedalis, gracilis, superne setaceus scaber, basi vaginis nigro-purpureis tectus, inferne foliatus. *Folia* 1-$2\frac{1}{2}$ lin. lata, superius sub 7-pollicare culmo brevius, deorsum breviora, supra margineque scabra. *Bractea* foliacea, vaginans, culmo brevior, sursum angustior demum setacea spica brevior. *Spica mascula* 6-13 lin. longa, $\frac{1}{2}$ lin. lata, pedunculata, basi laxiflora, squamis lanceolatis, medio viridibus subtrinerviis margine albo-membranaceo, inferioribus laxis apice attenuatis vel mucronatis ciliatis. *Spicæ fœmineæ* 3-4 remotæ, 1-2 poll. longæ, $1\frac{1}{2}$ lin. latæ, graciles, setaceo-pedunculatæ, nutantes, laxifloræ, basi flosculis remotiuscule alternis attenuatæ, squamis ovatis acuminatis mucronatis, medio viridibus nervosis margine albo-membranaceis. *Pedunculi* setacei, scabri, vaginas longe superantes. *Perigynium* $1\frac{7}{9}$ lin. longum, $\frac{6}{9}$ lin. latum, ellipticum, triquetrum, distincte nervosum, glabrum, viride demum olivaceum, brevi-stipitatum, ore bidentato vel bifido. *Achenium* 1 lin. longum, $\frac{1}{2}$ lin. latum, oblongo-triquetrum, olivaceo-stramineum, basi styli apiculatum.

Differt *C. sylvaticâ*, Huds. habitu tenuiori, spicis fœmineis laxifloris basi attenuatis gracilioribus, perigyniis nervosis rostro multum breviori, squamis fœmineis ovatis.

157. *C. lacustris. Willd. Schk. f.*

Hab. Lake Winnipeg. Cumberland House. *Dr Richardson.*

158. *C. amplifolia* (Boott); spica mascula 1 longissima pedunculata fœmineis 4-5 cylindricis longissimis remotis foliaceo-bracteatis evaginatis, stigmatibus 3, perigyniis (immaturis) ovato-lanceolatis rostratis oblique bidentatis squama lanceolata aristata multum brevioribus. (Tab. CCXXVI.)

Hab. Marshy places. Columbia River. *Douglas.*

Radix lignosus, crassus. *Culmus* bipedalis, acute triqueter scaber, basi reliquiis setiformibus vaginis rudimentisque foliorum vaginantibus gladiatis rubro-purpureis striatis tectus, pars spicas gerens pedalis. *Folia* 5-7 lin. lata, culmum superantia: inferiora breviora, superne margine scabra, apice triquetra acuminata, striato-nervosa. *Bractea* superior setacea, nigro-auriculata, brevissima; reliquæ foliaceæ pedunculos circumvolventes; inferiores 5-7 lin. latæ, culmum superantes, ligula ferruginea obtusa. *Spica mascula* 3-3½ poll. longa, 1½ lin. lata, ebracteata, e spica fœminea superiori intervallo sesquipollicari remota: squamis lanceolatis, ferrugineis, nervo viridi infra apicem obtusam membranaceo-albam evanescente. *Spicæ fœmineæ* 4-5 erectæ, inter se intervallis pollicaribus et 3-6-pollicaribus remotæ: superior sessilis, 1½ poll. longa: reliquæ pedunculatæ; duæ inferiores 3-4 poll. longæ, basi laxifloræ, longius pedunculatæ: omnes 1½ lin. latæ, ferrugineæ, cum masculâ concolores, squamis angustis, nervo viridi, inferioribus longe hispido-aristatis, marginibus incurvis. *Pedunculi* triquetri, scabri; inferior 3-pollicaris. *Perigynium* (floriferum) 1 lin. longum, ⅔ lin. latum, squamâ terties brevius. *Stig.* 3, longissima. *Achenium* immaturum.

Tab. CCXXVI. *Fig.* 1, Female Flower; *f.* 2, Young Perigynium:—*magnified.*

2. ELYNA. *Schrad.*

1. *E. spicata. Schrad.*—*Torr. Cyp. p.* 385.—Kobresia scirpina. *Willd.*—*Schkuhr, Car.* 2, 1. *Rich. App. ed.* 2. *p.* 34.—Scirpus Bellardi. *Wahl.*—*Carex. All.*

Hab. Barren grounds, between lat. 64° and the Arctic Sea. *Dr Richardson.* Shady places on the Rocky Mountains. *Drummond.* Greenland. *Hornemann.*

2. *E. caricina. Mert. et Koch.*—Kobresia caricina. *Willd.*—Carex hybrida. *Schk. Car. Rrr. f.* 161.—Schœnus monoicus. *Sm. Engl. Bot. t.* 1410.—β. spica bracteis squamisque latioribus, stylo magis exserto, foliis angustioribus.

Hab. Dry banks of the Rocky Mountains, α. β. Rocky Mountains; with *Carex Backii. Drummond.*

3. ELEOCHARIS. *Br.*

1. *E. palustris. Br.*—*Rich. App. p.* 2. *Torrey, Cyp. p.* 299.—Scirpus. *L.*—*E. Bot. t.* 131.—β. *minor;* spica ovata.—γ. *degenerata;* bi-triuncialis, spica minima 3-5-flora.

Hab. Throughout Canada to Bear Lake, and from Hudson's Bay to the Pacific Ocean; varying much in size from 4 or 6 inches to more than two feet.—β. and γ. Saskatchawan. *Drummond.* Lake Huron. *Dr Todd.*

2. *E. multicaulis. Sm.*—*Hook. Br. Fl. ed.* 4. *p.* 27. Scirpus multicaul. *E. Bot. t.* 1187. —S. palustris β. *L.*

Hab. Saskatchawan and Red Rivers. *Douglas.* Columbia River. N. W. Coast. *Tolmie.*—I can see no difference between this and the European plant of the same name.

3. *E. pauciflora. Link.—Hook. Br. Fl. ed.* 4. *p.* 28—Scirpus. *E. Bot. t.* 1122.—Scirpus Bæothryon. *Ehrh.*

Hab. Muddy swamps and salt marshes in the Rocky Mountains. *Drummond.*—Very few specimens of this are in the Herbarium; yet Mr Drummond remarks in his notes, "horses are extremely fond of this plant," which would imply that it was very frequent in that country. It precisely accords with European specimens.

4. *E. cæspitosa. Link.—Hook. Br. Fl. ed.* 4. *p.* 28.—Scirpus. *E. Bot. t.* 1029. *Torr. Cyp. p.* 319. *Rich. App. p.* 2.

Hab. Newfoundland. *Cormack.* Labrador. *Miss Brenton.* Throughout Canada, to near the shores of the Arctic sea, and in swamps of the Rocky Mountains. *Dr Richardson. Drummond.*

5. *E. obtusa. Schultes.—Hook. et Arn. Bot. of Beech. Voy. p.* 28. *Torr. Cyp. p.* 305. —Scirpus. *Willd.*—S. capitatus. *Walt.* (*not L.*).—S. ovatus. *Ph.*

Hab. Etchemia, Canada. *Mrs Sheppard.* Saskatchawan. *Dr Richardson. Drummond.*

6. *E. acicularis. Br.—Torr. Cyp. p.* 308.—Scirpus. *L.—E. Bot. t.* 749. *Gray, Gram. et Cyp. Part. II. n.* 133.—S. trichodes et S. capillaceus. *Muhl.*

Hab. Hudson's Bay and Red River. *Douglas.* Saskatchawan. *Dr Richardson. Drummond.* Fort Vancouver. *Tolmie.*—The culms are generally longer and more slender, and the scales of the flowers whiter than in the European specimens.

4. SCIRPUS. *L. Br.*

1. *S. subterminalis* (Torr.); culmo (immerso) filiformi tereti basi foliato, spica oblongo-lanceolata (emersa) bractea basilari breviore, squamis ovato-lanceolatis, nuce triangulari abrupte acuminata, stylo 3-fido. *Torr. Cyp. p.* 317. *Gray, Gram. et Cyp. Part II. n.* 81.

Hab. Deep standing pools of the Rocky Mountains, near the head-waters of the Columbia. *Drummond.* —*Culms* 2-3 feet long, flaccid, semipellucid.

2. *S. lacustris. E. Bot. t.* 686. *Gray, Gram. et Cyp. Part II. n.* 136. *Rich. App. ed.* 2. *p.* 2. *Torr. Cyp. p.* 321.—S. acutus. *Muhl.*—S. validus. *Vahl, et Ph.*

Hab. British America, as far north as lat. 57°. *Dr Richardson.* Marshes of the Rocky Mountains; the food of the Musk-rat during winter. *Drummond.* Mouth of the Columbia, N. W. America, where the Indian tribes near the sea weave it into mats. *Douglas.* De Fuca. *Dr Scouler.*

3. *S. triqueter. L.—E. Bot. t.* 1694. *Torr. Cyp. p.* 322.—S. Americanus. *Pers.*—*Gray, Gram. et Cyp. Part II. n.* 135.—S. pungens. *Vahl.*—S. tenuifolius. *De Cand.* (secund. spec. ex Un. Itin.)—S. mucronatus. *Ph.*

Hab. Marshes of the Saskatchawan. *Dr Richardson. Drummond.* Missinabie River. Canada. *Bolton.* Throughout North America to the Arctic regions. *Dr Torrey.*—The specimens in my possession are not numerous, and they are invariably smaller, more leafy, and have longer leaves than our British plant of the same

name; while they precisely correspond with the *Unio Itineraria* specimens of *S. tenuifolius*, from the Tête de Bouc near Bordeaux.

4. *S. maritimus. L.—E. Bot. t.* 542. *Rich. App. ed.* 2. *p.* 2. *Gray, Gram. et Cyp. Part I. n.* 82 (*in part*).—S. maritimus, β. macrostachyos. *Mich.*—S. macrostachyos. *Muhl.*—S. robustus. *Ph.*

Hab. Marshes (salt?) of the Saskatchawan. *Dr Richardson. Drummond.* New Brunswick. *Mr Kendall.* De Fuca, and the N. W. Coast. *Douglas. Dr Scouler.*—Varying much in the breadth of the foliage, and size of the spikes; the variety, with the larger spikes, seems to constitute the *S. macrostachyos* of authors.

5. *S. atro-virens. Muhl.—Gray, Gram. et Cyp. Part II. n.* 137. *Torr. Cyp. p.* 326.—S. polyphyllus. *Ph.*

Hab. Saskatchawan. *Drummond.*—I find only one specimen, which, in the densely glomerated spikelets, satisfactorily agrees with the *S. atro-virens* of American authors. But even this appears to me to be scarcely distinct from our European *S. sylvaticus.*

6. *S. lenticularis* (Torr.); culmo obscure triangulari folioso, umbella decomposita, involucro 3-phyllo, spiculis oblongo-ovatis in capitulos (5-8 in capitulo) glomeratis, squamis ovatis vix mucronatis glabris, stylo bifido, nuce orbiculari lenticulari angulis acutis setis 4 rectis breviore. *Torr. Cyp. p.* 328.

Hab. Observatory Inlet, N. W. America. *Dr Scouler.*—Nearly allied, as Dr Torrey well observes, to *S. sylvaticus*, (indeed I think it can hardly be specifically distinct from that species, or *atro-virens*), "but differs in its larger spike, lenticular nuts, diandrous flowers, and bifid style."—The true *S. sylvaticus* has a lenticular seed, and the other characters are perhaps variable.

7. *S. sylvaticus. L.—E. Bot. t.* 919. *Mx. Ph.—Rich. App. ed.* 2. *p.* 2.

Hab. Canada and Hudson's Bay (*Mx.*), to lat. 57°, and to the head-waters of the Columbia in the Rocky Mountains. *Dr Richardson. Drummond.* Sitcha. *Mertens.*

8. *S.* (*Trichophorum*) *Eriophorum. Mx.—Torr. Cyp. p.* 330.—S. thyrsiflorus. *Willd.*—Trichophorum cyperinum. *Pers. Ph.*—Eriophorum cyperinum. *Willd.*

Hab. Hudson's Bay. Canada to the Saskatchawan. *Dr Richardson. Drummond.* Newfoundland. *Miss Brenton.*

5. ERIOPHORUM. *L.*

* *Spike solitary.*

1. *E. alpinum. L.—E. Bot. t.* 311. *Gray, Gram. et Cyp. Part I. n.* 87. *Bigel. Fl. Bost. ed.* 2. *p.* 23.—E. Hudsonianum. *Mx.*—Trichophorum alpinum. *Ph.*—T. Hudsonianum. *Nutt.*

Hab. From Hudson's Bay to Lake Mistassins. *Mx.*—I possess mountain-specimens of this plant from the United States; but I have never had the good fortune to see any from British North America, nor do I know the authority for it, save that of Michaux above quoted.

2. *E. vaginatum. L.—E. Bot. t.* 873. *Rich. App. ed.* 2. *p.* 2.—*Gray, Gram. et Cyp. Part I. n.* 88.—E. cæspitosum. *Host, Gram. t.* 38. *Ph.*—β. foliis culmo duplo brevioribus.—γ. perigynii pilis fulvis.

Hab. Newfoundland. *Mr Cormack.* Canada (*Mrs Perceval*) to Fort Enterprise. *Dr Richardson. Drummond.*—β. Saskatchawan.—γ. Newfoundland. *Mr Cormack.* Lake Huron. *Dr Todd.*—This is certainly a highly variable species, not only in the length of the leaves, which are generally shorter, though sometimes twice as long as the culms, but also in the spikes, which, according to some of Mr Drummond's specimens, do vary not only in the length of the hairs, but also in the form of the spike, being sometimes oblongo-ovate, and sometimes spherical. Thus I am not surprised at Dr Torrey, who remarks in his valuable account of North American *Cyperaceæ*, that *E. capitatum* is very difficult to be distinguished from *E. vaginatum.*

3. *E. capitatum. Host,—Engl. Bot. t.* 2387. *Br. App. to Parry's* 1*st Voy. p.* 284. *Hook. in Parry's* 2*d Voy. p.* 407.—E. Scheuchzeri. *Roth.*—E. Chamissoi. *Mert. in Mem. Acad. Petersb.* 6*th Ser.* 1. *p.* 203. *f.* 3. *Torr. Cyp. p.* 237.—β. foliis scabris.—E. callithrix. *Cham. et Mey. Cyp. Nov. in Mem. Acad. Petersb.* 6*th Ser.* 1. *p.* 203. *t.* 23.

Hab. Labrador. *Miss Brenton.* Newfoundland. *Mr Cormack.* From Quebec (*Mrs Sheppard*) to the swamps on the summits of the Rocky Mountains (*Drummond*), and to the Arctic coasts and islands. *Dr Richardson.* Unalaschka. *Chamisso.*—β. St Lawrence, Behring's Straits.—See the remarks on the preceding species. My authentic specimen of *E. Chamissoi* precisely accords with *E. capitatum.*

** *Spikes several.*

4. *E. Virginicum. L.—Mx.—Ph.—Gray, Gram. et Cyp. Part I. n.* 89.

Hab. Canada to the Saskatchawan. *Mrs Sheppard. Dr Richardson.*—Readily distinguished by its nearly sessile spikes, and constantly tawny hairs.

5. *E. polystachyon. L.—E. Bot. t.* 563. *Ph.—Hook. in Parry's* 2*d Voy. p.* 407. *Gray, Gram. et Cyp. Part I. n.* 90. *Torrey, Cyp.* 339.—E. polyst. β. *Rich.*

Hab. Canada to the Rocky Mountains, and to the Arctic sea-shore and islands.

6. *E. angustifolium. Roth.—E. Bot. t.* 564. *Ph.—Br. in Parry's* 1*st Voy. App. p.* 274. *Hook. in Parry's* 2*d Voy. p.* 407. *Rich. App. ed.* 2. *p.* 2.—E. tenellum. *Nutt.*—E. polystachyon *var.* tenellum. *Gray, Gram. et Cyp. Part I. n.* 91.

Hab. Canada to Arctic America.—I have the same difficulty in determining the limits of the many-spiked *Eriophora* of North America, as regards those of Britain (as expressed in *Brit. Flora*, ed. 4. p. 30), *E. Virginicum* alone excepted. Dr Torrey indeed observes, that the present species is easily distinguished from *E. polystachyon* by its narrow triangular leaves, one-leaved involucre, and narrow nut. This is the case with the extreme states of the plant; but Dr Torrey proceeds, "Mr Brown thinks that the Arctic plant, collected in Parry's 1st voyage, may prove a distinct species, between *E. angustifolium* and *E. polystachyon;*" and further, "he notices two varieties of it, one with smooth, the other with scabrous peduncles,"—thus appearing to include the *E. pubescens* of Smith.

7. *E. gracile. Roth.—E. Bot. t.* 2402. *Hook. in Parry's 2d Voy. p.* 407. *Torrey, Cyp. p.* 241.—E. triquetrum. *Hoppe.*

Hab. Saskatchawan to Arctic America. *Dr Richardson. Drummond. Capt. Parry.*—Specimens of this entirely accord with the *E. gracile* of Europe, and yet scarcely differ, except in being more slender in evéry part, from the preceding.

8. *E. strictum* (Br.); spicis pedunculatis involucro brevioribus, squamis acutiusculis tenuissime ciliatis, foliis strictis planis apice triquetro, culmo teretiusculo. *Br. in Rich. App. ed.* 2. *p.* 3. *Torrey, Cyp. p.* 342.

Hab. Subarctic America. *Dr Richardson.*—" Dubia species, *E. tenello* (*Nutt.*) proxima." *Br.*—I am unacquainted with this plant.

6. DULICHIUM. *Richard.*

1. *D. spathaceum. Pers.—Ph.—Gray, Gram. et Cyp. Part II. n.* 131. *Torr. Cyp. p.* 247.—Schœnus. *L.*—Scirpus. *Mx.*—Cyperus. *L.*—*β. humilius;* foliis brevioribus, spiculis subdecemfloris. D. Canadense. *Ph.*

Hab. Canada to the Saskatchawan. *Dr Richardson. Drummond.*

7. CYPERUS. *L.*

1. *C. diandrus. Torr. Cyp. p.* 251. *Gray, Gram. et Cyp. Part I. n.* 70.

Hab. Canada. *Goldie.*

2. *C. occidentalis* (Torr.); culmis dense cæspitosis brevibus, foliis planis, umbellæ radiis brevibus compactis, spiculis arcte aggregatis in capitulos ovatos inferioribus compositis, squamis ovatis acutiusculis membranaceis, stylo ad apicem 3-fido, nuce ovata compresso-triangulari. *Torr. Cyp. p.* 259.

Hab. N. W. Coast of America. *Douglas.*—A dwarf tufted species, the culms scarcely 2 inches long.

3. *C. strigosus. L.—Ph.—Torr. Cyp. p.* 261.

Hab. Upper Canada. *Goldie.* Saskatchawan. *Dr Richardson. Drummond.*

4. *C. repens. Ell.—Torr. Cyp. p.* 264.—C. phymatodes. *Muhl.—Gray, Gram. et Cyp. Part I. n.* 73.—C. tuberosus. *Ph.*

Hab. Upper Canada. *Goldie.*

5. *C. inflexus. Muhl.—Gray, Gram. et Cyp. Part I. n.* 68. *Torr. Cyp. p.* 274.—C. uncinatus. *Ph.*—C. pygmæus. *Nutt.*

Hab. Saskatchawan and Lake Winnipeg. *Dr Richardson. Drummond.*

6. RHYNCHOSPORA. *Vahl.*

1. *R. alba. Vahl.—Ph.—Gray, Gram. et Cyp. Part* 1. *n.* 92. *Torr. Cyp. p.* 213. Schœnus albus. *L.—Mx.—E. Bot. t.* 985.

Hab. Canada, (*Torrey*). Newfoundland. *Miss Brenton.*

2. *R. glomerata. Vahl.—Ph.*—R. capitellata. *Vahl.—Ell.*—Schœnus glomeratus. *L.*

Hab. Canada, (*Torrey*).

Ord. XX. GRAMINEÆ. *Juss.*

I. Oryzeæ. *Kth.*

1. LEERSIA. *L.*

1. *L. Virginica. Willd.—Torr. Fl. p.* 74.

Hab. Canada. *Beck. Goldie.*

2. *L. oryzoides. Sw.—Host, Gram.* 1. *p.* 35. *Ph.—Torr. Fl. p.* 75.—Asprella. *Lam.*

Hab. Canada to the Saskatchawan. *Dr Richardson. Drummond.*

2. HYDROPYRUM. *Link.*

1. *H. esculentum. Link.—Kth.*—Zizania aquatica. *L.—Lamb. in Linn. Tr.* 7. *p.* 264. *t.* 13.—Z. palustris. *L. Mant.*—Z. clavulosa. *Mx.*

Hab. Canada. *Ph.* Lake Huron. *Dr Todd.*

2. *H.? fluitans. Kth. Gram.* 1. 7.—Zizania. *Mx.*—Hydrochloa Carolinensis. *Beauv.*

Hab. Lakes Champlain and the St Lawrence. *Mx.*—I have never seen this species.

II. Phalarideæ. *Kth.*

3. ALOPECURUS. *L.*

1. *A. geniculatus. L.—E. Bot. t.* 1250. *Torr. Fl. p.* 97. (*excl. var.* β.)

Hab. Canada. *Mx.* Columbia. N. W. America. *Douglas.*

2. *A. aristulatus. Mx.*—A. subaristatus. *Ph.*—A. geniculatus β. *Torr. Fl. p.* 37.—A. fulvus. *Sm.—Kth.*

Hab. Canada to Bear Lake. *Dr Richardson. Drummond.* Abundant on the N. W. coast, in swampy grounds. *Douglas.*

3. *A. pratensis. L.—E. Bot. t.* 759. *Ph.—Torr. Fl. p.* 37.

Hab. Newfoundland. *Dr Morrison.*—In all probability introduced.

4. *A. alpinus. Sm.—E. Bot. t.* 1126. *Br. in. Parry's* 1*st Voy. p.* 184. *Rich. App. ed.* 2. *p.* 3. *Hook. in Parry's* 2*d Voy. App. p.* 184.

Hab. Rocky Mountains, and upon the Arctic sea-shores and islands. *Dr Richardson. Drummond. Parry.* Kotzebue's Sound. *Beechey.*

4. PHLEUM. *L.*

1. *P. pratense. L.—E. Bot. t.* 1076. *Ph.—Torr. Fl. p.* 38.

Hab. Newfoundland. *Miss Brenton.* Saskatchawan. *Drummond.* Corn-fields at Fort Vancouver. *Dr Gairdner.*

2. *P. alpinum. L.—E. Bot. t.* 519.—P. commutatum. *Gaud.*—β. viridius.

Hab. Summits of the Rocky Mountains. *Drummond.* Sitcha. *Bongard.*—β. Branches of the Columbia in the Rocky Mountains. *Douglas.* Greenland. *Hornemann.*

5. PHALARIS. *L.*

1. *P. arundinacea. L.—E. Bot. t.* 402. *Mx.—Ph.*—P. Caroliniana. *Walt.*—Calamagrostis colorata. *Sibth.—Nutt.*—Phalaris Americana. *Ell.—Torr. Fl. p.* 100.

Hab. From Canada (*Goldie*) to the Bear Lake; *Dr Richardson, Drummond;* and from Hudson's Bay to the Western Ocean; frequent on the sandy banks of streams. *Douglas.*—This does not seem to differ in any respect from the European plant.

6. HIEROCHLOE. *Gmel.*

1. *H. borealis. R. and S.—E. Bot. Suppl. t.* 2641. *Torr. Fl. p.* 150.—Holcus. *Schrad.*—Hierochloe fragrans. *R. et S.—Richard. App. ed.* 2. *p.* 3.—H. arctica. *Presl, Reliq. Hænck.* 1. *p.* 252.—Holcus. *Willd.—Ph.*—H. odoratus. *L.—Mx.*

Hab. Saskatchawan and the Rocky Mountains. *Dr Richardson. Drummond.* Kotzebue's Sound. *Beechey.* Dry grounds near the source of the Columbia. *Douglas.* Nutka Sound. (*Presl.*)

2. *H. alpina. R. et S.—Br. in Parry's* 1*st Voy. n.* 66. *Richard. App. ed.* 2. *p.* 3. *Torr. Fl. p.* 150.—Holcus. *Sw.—Wahl. Lapp. t.* 2. *Fl. Dan. t.* 1508.—H. monticola. *Bigel.*

Hab. Labrador. *Miss Brenton.* Arctic sea-shores and islands. *Dr Richardson. Parry.* Greenland. *Hornemann.*

3. *H. pauciflora* (Br.); racemo simplici flosculo masculo superiore brevissime setigero, foliis culmi brevissimis, radicalibus involutis. *Br. in Ross' Voy. App. p.* 35.

Hab. Arctic islands. *Parry.*

7. ANTHOXANTHUM. *L.*

1. *A. odoratum. L.—E. Bot. t.* 647.—647.—*Mx.—Ph.—Torr. Fl. p.* 101.

Hab. Newfoundland. *Mr Cornack.*

III. Paniceæ. *Kth.*

8. MILIUM. *L.*

1. *M. effusum. L.—E. Bot. t.* 1106. *Torr. Fl. p.* 77. *Gray, Gram. et Cyp. Part II. n.* 113.

Hab. Canada (near Montreal). *Dr Paine.* Quebec. *Mrs Sheppard.*

9. PANICUM. *L.*

1. *P. clandestinum. L.—Torr. Fl. p.* 141. *Gray, Gram. et Cyp. Part I. n.* 27.—P. latifolium β. clandestinum. *Ph.*

Hab. Quebec. *Mrs Perceval.*

2. *P. latifolium. L.—Mx.—Ph.—Torr. Fl. p.* 142. *Gray, Gram. et Cyp. Part II. n.* 100.

Hab. Canada. *Goldie.*

3. *P. xanthophysum* (Gray); culmo (simplici aut basi ramoso) panicula foliisque glabris, vaginis villosis, foliis lato-lanceolatis valde nervosis acutissimis basi ciliatis, panicula simpliciuscula pauciflora ramis erectis vel adpressis, spiculis globoso-obovatis pubescentibus, gluma inferiore flosculis subduplo breviore, superiore eosdem æquante 9-nervi, flore masculo bivalvi hermaphroditum glabrum obovatum subæquante. *Gray, Gram. et Cyp. Part I. n.* 28.

Hab. Plains of the Saskatchawan.—This handsome species was first discovered in Pine plains, near Oneida Lake, New York, by *Dr Asa Gray*, and published in his beautiful *Gramineæ and Cyperaceæ of the United States*, above quoted.

4. *P. nitidum. Lam.—Mx.—Ph.—Torr. Fl. p.* 145. *Gray, Gram. et Cyp. Part I. n.* 30. *and Part II. n.* 110, 111, 112.

Hab. Throughout Canada to the Saskatchawan. *Goldie. Dr Richardson. Drummond.*

5. *P. virgatum. L.—Mx.—Ph.—Torr. Fl. p.* 147. *Gray, Gram. et Cyp. Part I. n.* 31.—P. pruinosum. *Bernh.* (*fide Nees.*)

Hab. Lake Huron. *Dr Todd.* Saskatchawan. *Drummond.* Columbia. *Douglas.*

6. *P. rectum. R. et S.—Torr. Fl. p.* 148. *Gray, Gram. et Cyp. Part I. n.* 29.—P. strictum. *Ph.*—P. depauperatum. *Muhl.*—P. involutum. *Torr. Fl. p.* 144.—P. junceum. *Trin.* (*fide Nees.*)

Hab. Plains of the Saskatchawan. *Drummond.*—Dr Asa Gray has given the following amended character of this species:—"P. culmo cæspitoso simplici (spitham. et ultr.), foliis linearibus rigido-erectis pungentibus, panicula simpliciuscula pauciflora, ramis erectis subpatulisve, spiculis (magnis) acuminatis glabris, gluma inferiore flosculis quadruplo breviore 1 superiore eosdem subexcedente 7-nervi, hermaphrodito obtuso glabro neutro bivalvi paulo minore."

7. *P. viscidum. Ell. Fl. t.* 123. *Kth. Agr. Syn. p.* 107.

Hab. Dry grounds of the Columbia, about Fort Vancouver. *Douglas.*—The specimens entirely accord with those in my Herbarium, from Mr Nuttall and Dr Torrey, gathered in New Jersey.

8. *P. capillare. L.—Mx.—Ph.—Torr. Fl. p.* 149.

Hab. Saskatchawan. *Dr Richardson. Drummond.* Columbia. *Douglas.*

10. OPLISMENUS. *Kth.*

1. *O. Crus-Galli. Kth.*—Panicum, *L.—E. Bot. p.* 876. *Torr. Fl. p.* 140. *Mx.—Ph.*

Hab. Canada. *Mrs Sheppard.* Marshy ground along the sea-shore, from "Cape Disappointment," to the Straits of De Fuca, N. W. America. *Douglas.*

2. *O. muricatus. Kth. Gram.* 1. *t.* 44.—Panicum. *Mx.*—P. hispidum. *Muhl.—Torr. Fl. p.* 141. *Gray, Gram. et Cyp. Part I. n.* 26.—P. Crus-Galli, β. hispidum. *Ell.*—P. Walteri. *Ph.*

Hab. Canada. *Pursh.*

11. SETARIA. *Beauv.*

1. *S. glauca. Beauv.—Torr. Fl.* 1. *p.* 152.—Panicum, *L.—Mx. Ph.—Host, Gram. Austr.* 2. *p.* 16.

Hab. Saskatchawan. *Dr Richardson. Drummond.*

IV. Stipaceæ. *Kth.*

12. ORYZOPSIS. *Richard.*

1. *O. asperifolia. Rich. in Mx. Fl.* 1. *p.* 51. *t.* 9. *Ph.—Torr. Fl. p.* 71.

Hab. Canada, to the Rocky Mountains. *Dr Richardson. Drummond.*—The *O. melanocarpa*, Muhl. referred here by Kunth, is a very different plant from the *Piptatherum nigrum* of Torr. Fl.

2. *O. parviflora. Nutt. Journ. Ac. Phil. p.* 79.—Stipa juncea. *Mx.*—S. Canadensis. *Poir.—Ph.—Rich. App. ed.* 2. *p.* 3.—Milium pungens. *Torr. Fl. p.* 78.—Urachne Canadensis. *Torr. in Synop. Fl. ined. Gray, Gram. et Cyp. Part II. n.* 114.—Urachne brevicandata. *Trin.*

Hab. Canada, to the Saskatchawan. *Dr Richardson. Drummond.*—Dr. Gray is of opinion that this is correctly referred by Nuttall to *Oryzopsis.*

13. STIPA. *L.*

1. *S. Sparta. Trin. in Act. Petr.* 1830. 1, 82. (teste ipsiss. *Trin.*)—S. parviflora. *Nutt. Gen. Am.* 1. *p.* 50. (*fide Torrey.*) (*non Desf.*)

Hab. Banks of the Saskatchawan. *Dr Richardson.*—Closely allied, as Trinius observes, to *S. juncea.* Nuttall's *S. parviflora* is from the Missouri.

2. *S. capillata. L.—Host, Gram.* 3. *t.* 5.—S. juncea. *Ph.?*

Hab. Carlton House Fort, on the Saskatchawan. *Drummond.*—On the banks and plains of the Columbia, near the Missouri Portage. *Douglas.*

3. *S. membranacea. Ph.* 2, 728. (*non L.*)—S. hymenoides. *R. and S.*—Eriocoma cuspidatum. *Nutt. Gen.* 1, 40.—Milium. *Spr.*

Hab. Carlton House Fort. *Dr Richardson. Drummond.* Barren plains of the Columbia, from the Great Falls to the source of the Missouri. *Douglas.*—I possess some of Mr Bradbury's original specimens from the Missouri of this exceedingly beautiful grass, given me by Dr Taylor.

V. Agrostideæ. *Kth.*

14. MUHLENBERGIA. *Schreb.*

1. *M. glomerata. Trin. Gr. Unifl.* 191. *t.* 5. *f.* 10. *Gray, Gram. et Cyp. Part I. p.* 15.—Polypogon. *Willd.*—P. racemosus. *Nutt.—Torr. Fl. p.* 92.—P. setosus. *Spr.*—Agrostis racemosa. *Mx.—Ph.*—A. setosa. *Muhl.*—Trichochloa glomerata et calycina. *Trin.*

Hab. Plains of Saskatchawan to the Rocky Mountains. *Dr Richardson. Drummond.* Dry plains of the Columbia, and valleys of the Blue Mountains. *Douglas.*

2. *M. aristata. Pers.—Kth.*—M. erecta. *Schreb.—Ph.*—M. Brachyclytrum, *Trin.—Gray, Gram. et Cyp. Part I. n.* 11.—Brachyclytrum erectum. *Beauv.*—B. aristatum. *R. and S.—Torr. Fl. p.* 102.

Hab. Canada. *Goldie.*

3. *M. Cinna. Trin.—Gray, Gram. et Cyp. Part I. n.* 16.—Agrostis. *Lam.—Ph.*—Cinna arundinacea. *Willd.—Mx.—Torr. Fl. p.* 94.—*Kth.*

Hab. Saskatchawan. *Dr Richardson.*

4. *M. pendula* (Bong.); panicula laxa pendula, glumis lineari-lanceolatis acuminatis subæqualibus perianthium obtusiusculum subæquantibus. *Bong. Veget. Sitcha, p.* 54.

Hab. Sitcha. *Bongard.*

15. PHIPPSIA. *Br.*

1. *P. algida. Br. in Ross' Voy. ed.* 2. *v. p.* 191. *Br. in Parry's* 1*st. Voy. App. p.* 185. *Hook. in Parry's* 2*d Voy.*—Agrostis. *Soland. in Phipps' Voy.—Wahl. Lapp. p.* 25. *t.* 1.—Vilfa algida. *Trin. Ic. t.* 83.

Hab. Melville and other arctic islands. *Parry.* Greenland. *Phipps. Hornemann.*

2. *P. monandra. Trin. in N. Entdek.* 2. *p.* 37.—Vilfa. *Trin. Ic. t.* 84. *Hook. et Arn. in Bot. of Beech. Voy. p.* 132.—Phippsia algida. β. monandra. *Kth.*

Hab. Tschutki. *Nelson.* Kotzebue's Sound and Bay of St Lawrence. *Chamisso. Beechey.*

16. COLPODIUM. *Trin.*

1. *C. latifolium. Br. in Ross' Voy. Br. in Parry's* 1*st Voy. App. p.* 186. *Hook. in Parry's* 2*d Voy. App. p.* 28. *cum Ic.*

Hab. Arctic sea-coast and islands. *Dr Richardson. Parry.*

2. *C. arundinaceum.*—Vilfa, *Trin. Diss.—Gram. Ic. t.* 55. *Hook. et Arn. in Bot. of Beech. Voy. p.* 131.—Colpodium latifolium β. *Kth.*

Hab. Kotzebue's Sound. *Beechey.* Cumberland House Fort, and Hudson's Bay. *Drummond.* Bear Lake to the shores of the Arctic Sea. *Dr Richardson.*—Of this little known grass, Dr Richardson has the following description in his notes made on the recent plant—"*Calyx* of 2 unequal valves, which are ovato-lanceolate, boat-shaped, concave, scarcely acuminate, compressed, quite smooth and entire, reddish-brown and shining; smaller valve half the size of the other. *Corolla* of 2 nearly equal valves, of similar colour and consistence with the calyx, equal to, or rather longer than the larger valve of the calyx; its outer valve embracing the inner, and a little longer: both obtuse, compressed, serrulated at the keel, otherwise smooth, somewhat membranaceous at the margin and edges, and there entire. *Stamens* 3. *Styles* 2? perhaps united. *Stigmas* plumose, branching? *Seed* loose. This seed appears to be oblong, and there are 2 or 3 lanceolate, pointed membranaceous scales.—I should be disposed to refer it to *Cinna*, if it had only one stamen and one style; as it is, it possesses all the characters of *Vilfa* or *Colpodium.*"

3. *C. pauciflorum;* panicula erecta spicæformi angusta pauciflora, gluma perianthium superante uniflora cum rudimento pedicellato, valvis subæquantibus acutissimis carina superne præcipue aspera unifloris, perianthio obtuso valvis apice dorso marginibusque asperulis, foliis lineari-acuminatis subrigidis siccitate complicatis vel marginibus involutis.

Hab. Between Fort William and Cumberland House Fort. *Dr Richardson.*—Smaller and much slenderer than *C. latifolium,* with a very narrow few-flowered panicle, the floret of a much paler and greener hue, the glumes sharper and constantly longer than the perianth; and there is always a distinct but abortive pedicellate floret present, arising from the base of the inner valve of the perfect one.

17. VILFA. *Beauv.*

1. *V. cuspidata* (Torr. mst.); culmis numerosis gracilibus vaginisque glabris, foliis

subdistichis angustis involutis tenuissime elongatis, paniculis elongatis angustissimis exsertis, glumis subæqualibus acutissimis carina scabris unifloris absque rudimento, perianthii exserti valvula exteriori paululum longiore trinervi cuspidata.

Hab. Banks of the Saskatchawan, near the Rocky Mountains. *Drummond.* Plains of the Red River. *Douglas.*—Mr Drummond's specimens are named *V. cuspidata* by Dr Torrey, and considered by him a new species. Its nearest affinity is with *V. vaginiflora*, Torr. (*in Gray, Gram. et Cyp. Part I. n.* 3.) and *P. involuta*, Torr. (*a Gray, Gram. et Cyp. l. c. n.* 4.); the foliage and habit bearing a considerable resemblance, but the panicle is much elongated, the flowers smaller, more rigid, and considerably different in structure.—*V. clandestina* (*Spr., and Torr. Fl. p.* 90), agrees with this in so many respects, that I am not sure that they are really distinct; but my authentic specimens of *T. clandestina* are in a very imperfect state.

2. *V. tenacissima. H. B. K.—Trin. Gram. Ic. t.* 60. Sporobolus. *Beauv.*—Agrostis. *Jacq.* β. *fuscicolor;* paniculæ ramis longioribus glumis valde inæqualibus.

Hab. β Common on Menzies' Island, N. W. America, and on the higher parts of the Columbia River. —There is only one specimen of this plant, which may probably prove distinct from that to which I have referred it. The culms and foliage sufficiently accord, however, and the panicle is very similar; but the branches are longer, the flowers rather larger, more deeply coloured and brown, and the valves of the calyx (or glume) very unequal. Indeed in the United States specimens of the true *V. tenacissima*, I find the calyx valves much more unequal than is represented in the figure of Trinius, or described in Dr Torrey's Flora.

18. AGROSTIS. *L.*

1. *A. alba. L. E. Bot. t.* 1189.—*Ph.—Torr. Fl. p.* 85.—var? valvula flosculi e medio dorso setigera. *Nees. in Herb. nostr.*

Hab. *var.* Moist ground and banks of streams near the confluence of the Columbia River. *Douglas.*—Certainly this plant has so exactly the appearance of our well-known *Agrostis alba*, that we hardly dare venture to consider it distinct, although the back of the valve of the corolla constantly bears a slender awn rather longer than the flower, and very conspicuous. The valves of the glumes too are very rough on the keel.—The European *A. alba* has sometimes a short awn from the corolla.

2. *A. vulgaris. Sm. E. Bot. t.* 1671.—*Ph.—Torr. Fl. p.* 85.—A. polymorpha. *Huds.*—*Gray, Gram. et Cyp. Part II. n.* 108.

Hab. Common on banks of streams, N. W. Coast. *Douglas.* Observatory Inlet. *Dr Scouler.*

3. *A. exarata* (Trin.); radice fibrosa, culmis erectis simplicibus vaginisque sulcato-striatis et glabris, foliis linearibus acuminatis planis retrorsum scabris, panicula ramosa erecta contracta, ramis semiverticillatis adpresso-erectis hispidis, glumis acuminatis carina denticulatis florem muticum duplo superantibus, superiore paulo breviore. *Trin. Gram. Unifl.* 205. *Ejusd. Ic. t.* 27. *Bong. Veg. de Sitcha, p.* 52.—β. *minor;* perianthio univalvi. A. Drummondi. *Torrey, mst.*

Hab. Unalaschka. *Chamisso.* Sitcha. *Bongard.*—β. Valleys of the Rocky Mountains, on the east and on the west side of the dividing ridge. *Drummond. Douglas.*—The var. β. is probably a distinct species; but knowing how sportive are the flowers of several species of *Agrostis*, I prefer considering it a var. of *A.*

exarata. The plant is smaller, and the leaves shorter; yet the flowers seem entirely to correspond, except in the absence of one of the valves of the corolla. Dr Torrey calls it *A. Drummondi, mst.*, but remarks its close affinity with *A. exarata*, Trin. and the one-valved corolla. According to Bongard, the *A. exarata* is sometimes furnished with an awn arising from above the middle of the inner valve of the corolla.

4. *A. rubra. L.—Wahl. Lapp.—Trin. Gram. Ic. t.* 33.

Hab. Millbank Sound. N. W. Coast America. *Mr Tolmie.*

5. *A. canina. L.*—β. melaleuca. *Bong. Veget. de Sitcha, p.* 52.—β Sitcha Bongard.

Hab. Summits of the Rocky Mountains.—These specimens are scarcely a span high, the glumes purple black, the corolla almost white. Our specimens exhibit no awns from the corolla, a state in which Bongard also found the plant in Sitcha.

6. *A. laxiflora. Rich. App. ed.* 2. *p.* 3.—*Kth.*—Trichodine. *Mx.—Ph.—Torr. Fl. p.* 83. —Agrostis Michauxii. *Trin.—Gray, Gram. et Cyp. Part I. n.* 17.—Trichodium decumbus. *Mx.*—T. scabrum. *Muhl.*

Hab. Burnt woods and dry Prairies, from Canada (*Goldie*), to the Saskatchawan, and to Bear Lake. *Dr Richardson. Drummond.* Common in dry open grounds, near the Pacific Ocean. *Douglas.*

VI. Arundinaceæ. *Kth.*

19. CALAMAGROSTIS. *Adans.*

1. *C. Canadensis. Beauv.—Torr. Syn. Fl. ined. Gray, Gram. et Cyp. Part I. n.* 18. (*not Nutt. and Trin.*)—Arundo Canadensis. *Mx.*—Calamagrostis Mexicana. *Nutt.*

Hab. Marshes and shady woods of the Saskatchawan to the Rocky Mountains. *Dr Richardson. Drummond;* and to Bear Lake. *Dr Richardson.* Kotzebue's Sound. *Beechey.*

2. *C. coacrtata. Torr. Syn. Fl. ined. Gray, Gram. et Cyp. Part I. n.* 19.—C. Canadensis. *Nutt. Richard. App. ed.* 2. *p.* 3. *Trin. Gram. Unifl. p.* 227. *t.* 4. *f.* 14.

Hab. Woody Country. *Dr Richardson.* Quebec. *Mrs Perceval.* Nutka and Fort Vancouver, N. W. Coast. *Dr Scouler.*

3. *C. stricta. Nutt.—Rich. App. ed.* 2. *p.* 3.—Arundo. *Sm. E. Bot. t.* 2164.—A. neglecta. *Ehrh.*

Hab. Saskatchawan to the Rocky Mountains, and to English River. *Dr Richardson. Drummond.* Observatory Inlet, N. W. Coast. *Dr Scouler.*

4. *C. purpurascens* (Br. *in Richard. App. ed.* 2. *p.* 3.); panicula spicata, glumis scabris, perianthii valvula inferiore scabra apice 4-dentata dorso aristata, rudimento plumoso villis baseos duplo longiore. *Br.*—Desvauxia. *Kth. Gram. t.* 77.—C. sylvatica. *Trin.* (*fide Torr.*)

Hab. Rocky Mountains and Arctic sea-shore. *Dr Richardson. Drummond.*

5. *C. longifolia;* lævissima, foliis anguste linearibus longissime acuminatissimis, panicula erecta stricta subspicata, glumæ valvis inæqualibus perianthium acutum muticum superantibus, villis perianthio brevioribus.

Hab. Saskatchawan. *Drummond.*—A species remarkable for the great length of its leaves, exceeding the culm, tapering into a long, slender apex, and for the pale, very smooth, glossy flowers. The base of the culm sends out creeping shoots.

6. *C. strigosa* (*Bong.*); glumis æqualibus lineari-lanceolatis acuminatis perianthio $\frac{1}{4}$ longioribus, valvula superiori inferiore $\frac{1}{3}$ breviori, pilis perianthio paulo minoribus (interdum longitudine valvulæ superioris), seta infra medium (aut medio) exserta valvulam inferiorem æquante, processu barbato. *Bong. Veget. de Sitcha, p.* 53.—Arundo strigosa? *Wahl.—R. et S.*

Hab. Sitcha. *Bongard.*

7. *C. Aleutica* (*Trin.*); glumis subæqualibus lanceolatis acutis perianthium æquantibus valvulis æqualibus, pilis perianthio $\frac{5}{4}$ et ultra brevioribus, seta pl. min. medio exserta valvula breviori, processu barbato, pilis perianthio 2-3-4-plo brevioribus. *Bong. Veget. de Sitcha, p.* 53.

Hab. Unalaschka. *Chamisso.* Sitcha. *Bongard.*—Very near *C. coarctata. Torr.*

20. AMMOPHILA. *Host.*

1. *A. arundinacea, Host, Gram.* 4. *p.* 24. *t.* 41.—Arundo arenaria, *L.—E. Bot. t.* 520. *Mx.*—Psamma, *Beauv.—Torr. Fl. p.* 95.—Calamagrostis, *Roth.—Gray, Gram. et Cyp. Part* I. *n.* 21.

Hab. Canada. *Ph.*

21. GRAPHEPHORUM. *Desv.*

1. *G. melicoides, Beauv. Agr.* 77. *t.* 15. *f.* 8.—Aira. *Mx.—Ph.*—Triodia, *Spr.*

Hab. Canada. *Mx.*

22. PHRAGMITES. *Trin.*

1. *P. communis, Trin.—Kth.—Torr. Fl. p.* 103.—Arundo Phragmites, *L.—E. Bot. t.* 401.

Hab. Canada. *Ph.* Saskatchawan. *Dr Richardson. Drummond.* Columbia. *Douglas.*

VII. Chlorideæ. *Kth.*

23. SPARTINA. *Schreb.*

1. *S. cynosuroides, Willd.*—*Gray, Gram. et Cyp. Part* II. *n.* 101.—Limnetis, *Rich.*—*Ph.*—Trachynotis. *Mx.*

Hab. Canada. *Ph.*

2. *S. polystachya, Willd.*—*Gray, Gram. et Cyp. Part* II. *n.* 102.—Trachynotis, *Mx.*—Limnetis, *Ph.*

Hab. Canada. *Mrs Sheppard.* Saskatchawan to Slave Lake. *Dr Richardson. Drummond.*—*Dr Asa Gray* keeps these two *Spartinæ* distinct, in his valuable *Gram. et Cyp. Americ.*;—but I rather incline to agree with those Botanists who unite them.

24. EUTRIANA. *Trin.*

1. *E. oligostachya, Kth. Enum. p.* 282.—Atheropogon oligostachys, *Nutt. Gen. Am.* 1. *p.* 78.

Hab. Plains of the Saskatchawan to the Rocky Mountains. *Drummond.*—This very beautiful and little known grass, which has quite the habit of *Ctenium*, was first detected by Mr Nuttall on the plains of the Missouri. It is now found as far north as the Saskatchawan, and Mr Drummond has also gathered very luxuriant specimens of the same plant in Texas (2d. Coll. n. 223, and 334.)

VIII. Avenaceæ. *Kth.*

25. DESCHAMPSIA. *Beauv.*

1. *D. cæspitosa, Beauv.*—Aira. *L.*—*E. Bot. t.* 1432.—*Ph.*—*Torr. Fl. p.* 132. *Gray, Gram. et Cyp. Part* II. *n.* 115.

Hab. Canada. *Ph.* Saskatchawan to Bear Lake. *Dr Richardson. Drummond.* Unalaschka. (*Kth.*)

2. *D. brevifolia, Br. in Parry's* 1*st Voy. App. p.* 291. *Hook. in Parry's* 2*d Voy. p.* 409.—β. *major;* subpedalis.

Hab. Arctic Sea-shore and Islands.—β. Arctic Sea-coast.—Var. β. is full twice the size of α., and seems almost to unite the *D. brevifolia* with *D. cæspitosa.*

26. DUPONTIA. *Br.*

1. *D. Fischeri, Br. in Parry's* 1*st Voy. App. p.* 291. *Hook. in Parry's* 2*d Voy. App. p.* 409.—Melica. *Spr.*

Hab. Arctic Sea-coast and Islands. *Dr Richardson. Parry. Sabine.* Kotzebue's Sound. *Beechey.*

27. AIRA. *L.*

1. *A. flexuosa, L.—E. Bot. t.* 1519. *Ph.—Torr. Fl. p.* 132. *Gray, Gram. et Cyp. Part* I. *n.* 43.

Hab. Canada. *Ph: Mrs Sheppard.* Newfoundland and Labrador. *Dr Morrison.* N. W. Am. *Douglas.*

2. *A. Danthonioides* (*Trin.*); glumis perianthia inæqualiter denticulata dorso aristata excedentibus, arista geniculata glumis longiore, foliis angustissimis. *Trin. in Act. Petrop.* 1830. 6. 57. *Kth. Agrost. p.* 290.

Hab. Low plains of the Columbia, near Fort Vancouver. *Douglas.* N. W. Am. (*Kth.*)—A very peculiar grass, of which I have seen no authentic specimen, but which I refer here at the suggestion of Dr Gray.

3. *A. atro-purpurea, Wahl.—Bong. Veget. de Sitcha, p.* 54.—Avena, *Link.*—Aira alpina, *Vahl, in Fl. Dan. t.* 961.

Hab. Sitcha. *Bongard.*

4. *A. latifolia;* panicula laxa, pedicellis scabriusculis, glumis opacis lato-ovatis acuminatis complicato-carinatis glaberrimis flosculos (2) superantibus, perianthii valv. ext. 4-nervio apice 4-dentato eroso, arista infra medium inserta superiori glumis æquali inf. breviore, foliis lato-linearibus acutis glabris. (Tab. CCXXVII.)

Hab. Rocky Mountains. *Drummond.*—A very remarkable species, which Drs Torrey and Gray are disposed to refer to *Avena:* but it seems to me rather to have the character of *Aira.* It is remarkable for the breadth of the leaves, and for the large, opaque (not glossy), purple-green colour of the glumes. The awns are almost wholly included. The florets at the base, as well as the pedicel of the upper floret, are villous with long white hairs: the inner valve of the perianth is bicarinate, with a strong nerve at each carina, and scabrous.

Tab. CCXXVII.—*Fig.* 1. Spikelet; *f.* 2. Florets; *f.* 3. Outer valve of the perianth; *f.* 4. Inner valve do.:—*magnified.*

5. *A. elongata;* panicula longissima composita gracili, ramis appressis scabris, glumis lineari-subulatis carinatis 3-nerviis (carina scabra) flosculos 2 multo superantibus, perianthii valvula exteriori apice 4-dentato obsolete 4-nervio arista stricta longissima perianthium multo superante, foliis angustissimis setaceis rigidis. (Tab. CCXXVIII.)

Hab. Sandy islands of the River Columbia. *Douglas.*—This, too, in the opinion of Messrs Torrey and Gray, should be referred to *Avena:* but it must be recollected that every Agrostographist has his own views respecting the limits of *Aira, Trisetum,* and *Avena.* The present plant is very different from every species in those genera with which I am acquainted. Its leaves are slender and setaceous. Culms, including the panicle, two feet and more long: of which the panicle itself occupies about one-half. The glumes are pale, tinged with purple, glossy, the carina green and scabrous.

Tab. CCXXVIII.—*Fig.* 1. Spikelet; *f.* 2. Florets; *f.* 3. Outer valve of the perianth; *f.* 4. Inner valve of do.:—*magnified.*

28. TRISETUM. *Br. Kth.*

1. *T. subspicatum, Beauv.—Richards. App. ed.* 2. *p.* 3. *Br. in Parry's* 1*st Voy. App. p.* 292.—Trisetum airoides, *R. & S.*—T. molle, *Kth.—Gray, Gram. et Cyp. Part* II. *n.* 166.—*Trin. Act. Petrop.*—Avena mollis, *Mx.*

Hab. Canada. *Mx.* Labrador. *Dr Morrison.* Rocky Mountains, *Drummond,* to the Arctic Sea-shore and Islands. *Dr Richardson. Sir E. Parry.*—A variable plant, in size, from 4 inches to a foot high, in the denseness or laxness of the inflorescence, in the hairiness, and in the more or less purple colour of the glumes.

2. *T. cernuum;* panicula laxa nutante, glumis tri-quadrifloris superiore paulo longiore (triplo latiore,) pilis calli brevibus, racheos medium valvulæ attingentibus, perianthiis bisubulatis supra medium longe aristatis, ovario barbato. *Trin. in Act. Petrop.* 1830. 6. 61. *Bong. Veg. Sitcha, p.* 54.—Avena cernua, *Kunth, Agrost. p.* 306.

Hab. Sitcha. *Mertens.* Columbia River. *Dr Scouler.*—Our Scoulerian specimen precisely accords with an authentic one in my herbarium from the Imperial Academy of Petersburg. It is a tall growing grass, 2-3 feet and more high, with leaves more than half an inch broad. The panicle almost a foot long, the branches slender, drooping, lax, the awn very long and slender, the outer valve of the perianth has the two terminal teeth long, and remarkably slender.

29. AVENA. *L.*

1. *A. versicolor, Vill. Delph.* 2. *p.* 142. *t.* 4. *f.* 5. *Kth. Agrost. p.* 300.—A. Scheuchzeri, *Poll.—Host, Gram.* 2. *p.* 52.

Hab. Rocky Mountains. *Drummond.*—The only difference I can perceive between these specimens and European ones, is that the panicle is longer (3 to 5 inches) and the spikelets more erect.

2. *A. striata* (*Mx.*); panicula subsimplici erectiuscula, spiculis 3-4-floris, flosculis basi barbatis superiore sæpe tabescente, glumis inæqualibus lævissimis, perianthii valvula ext. coriacea 7-nervia, glabra bicuspidata cuspidibus subulatis, arista subtortili perianthio subduplo longiore, foliis lineari-acuminatis angustis, ligula brevi truncata. *Mx. Am.* 1. *p.* 23.—Trisetum purpurascens, *Torr. Fl.* 1. *p.* 127. *Gray, Gram. et Cyp. Part* I. *n.* 46.

Hab. Montreal. *Paine.* (Torrey). Canada to the Saskatchawan and to the Rocky Mountains.—The limits between *Avena* and *Trisetum* do not appear to be well defined: but the habit of the present species (most distinct indeed in point of specific character) is so much that of the preceding, that I think it more natural to place it with the *Avenæ.*

30. DANTHONIA. *De Cand.*

1. *D. spicata, R. et S.—Gray, Gram. et Cyp. Part* II. *n.* 117. *Trin. Ic. Gram.* 5. *t.* 54.—Avena, *L.—Ph.*—Avena glumacea, *Mx.*

Hab. Saskatchawan to Hudson's Bay. *Dr Richardson. Drummond.*

IX. Festucaceæ.

31. POA. *L.*

1. *P. borealis;* culmo erecto subramoso compresso vaginisque glabris, foliis planis innovationum distichis scabris, panicula secunda spicæformi simplicissima erecta, spiculis lanceolatis sub-10-floris, glumis inæqualibus paleisque inferioribus 9-nerviis glaberrimis superiores æquantibus. *Kth.*—Brizopyrum boreale, *Presl, in Reliq. Haenk.* 1. *p.* 280.

Hab. Nutka Sound. (*Haenk.*)

2. *P. capillaris, L.—Mx.—Ph. Fl.* 1. *p.* 74.—Eragrostis, *Nees.*

Hab. Canada. *Ph.;* but I have never seen specimens from British America.

3. *P. reptans, Mx. Am.* 1. *p.* 6. *t.* 11. *Torr. Fl.* 1. *p.* 14. *Gray, Gram. et Cyp.. Part* I. *n.* 52.—Eragrostis, *Nees.*

Hab. Sandy banks of streams, N. W. Am. *Douglas.*

4. *P. fasciculata? Torr. Fl.* 1. *p.* 107.

Hab. Carlton House Fort on the Saskatchawan. *Drummond.*—The foliage, culms, and general aspect of this plant are quite the same as those of Dr Torrey's *P. fasciculata:* but the panicles have more regularly erect and shorter branches, and the glumes are longer and sharper. It is probably a distinct species.

5. *P. annua, L.—E. Bot. t.* 1141. *Torr. Fl.* 1. *p.* 107.

Hab. Newfoundland. *Dr Morrison.* Saskatchawan, and York Factory, and Hudson's Bay. *Dr Richardson. Drummond.* Columbia. *Dr Scouler.*

6. *P. festucæformis, Host, Gram. Austr.* 3. *t.* 17.—Poa arenaria, *var.* β. festucæformis. *Trin. in Act. Petrop.* 6. 1. 390. *Bongard, Veg. Sitcha, p.* 55.—Festuca Hostii, *Kth. Enum. p.* 393.

Hab. Sitcha. *Bongard.*—Abundant on Menzies' Island, and on the low sandy banks of the Columbia. N. W. Am. *Douglas.*—Host's figure is an excellent representation of our plant.

7. *P. distans, L.—E. Bot. t.* 986.—Festuca, *Kth.*

Hab. Observatory Inlet and shores of the Columbia, N. W. Am. *Dr Scouler.*

8. *P. airoides, Nutt. Gen. Am.* 1. *p.* 68, cum descr. (non *Kth.*)—P. Nuttalliana, *R. et S. Mant.* 2. *p.* 303.

Hab. Saskatchawan to the Rocky Mountains and to Slave Lake. *Dr Richardson. Drummond.*—A very distinct and well marked species.

9. *P. flexuosa, Wahl.—Host, Gram. Austr.* 4. *t.* 26. *Bongard, Veg. Sitcha, p.* 55.—P. laxa, *Wahl.* (*fide Kth.*)

Hab. Lake Winipeg to the Rocky Mountains and to the Arctic Sea-coast. *Dr Richardson. Drummond.*

—Specimens from the Rocky Mountains and from Bear Lake have larger spikelets and broader leaves; whilst others have more erect spikelets and very narrow leaves: but the structure of the flowers seems to be the same in all.

10. *P. laxa, Haenke.—Host, Gram.* 3. *t.* 15.—P. flexuosa, *Sm. E. Bot. t.* 1123.

Hab. Hudson's Bay to the Arctic Islands. *Dr Richardson. Drummond.*—Many of our specimens so entirely agree with the description and figures of the European *P. laxa*, that it is impossible not to consider them as identical.

11. *P. arctica, Br. in Parry's* 1*st Voy. App.—Hook. in Parry's* 2*d*, 3*d*, and 4*th Voy.—Hook. et Arn. in Bot. of Beech. Voy. p.* 132.—Poa flexuosa, β. *Trin. in Act. Petrop.* 6. 1. 378.—P. laxa, *Br. in Ross' Voy.* 2. 192.

Hab. Labrador. *Dr Morrison.* Rocky Mountains to the Arctic Sea-shores and Islands in every direction. *Dr Richardson. Drummond. Sir E. Parry*, &c.—Some of my specimens from Kotzebue's Sound are a foot high, others are scarcely 4 inches. I must confess myself frequently at a loss to distinguish *P. arctica* from *P. laxa*, and these again from some forms of *P. flexuosa*. A viviparous state of *P. arctica* with greenish flowers is in the collection from the Arctic Sea-coast.

12. *P. alpina, L.—E. Bot. t.* 1003.

Hab. Labrador. *Miss Brenton;* and from the elevated grounds of the Saskatchawan to Bear Lake and the Rocky Mountains. *Dr Richardson. Drummond.*—A most sportive plant in different localities; varying from 3 inches to 2 feet in height; with the leaves broader or narrower (sometimes, when dry, rigid, and with margins involute); the panicle erect or spreading; the spikelets opaque or glossy, broadly ovate and acute to oblong and almost obtuse, and, according to Kunth, with from 4 to 10 florets in each calycine glume: in our specimens, however, even those with the longest spikelets are about 4-flowered. Kunth enumerates 5 varieties of this species, and adduces very many synonyms.

13. *P. pratensis, L.—E. Bot. t.* 1073.—β. *stricta;* foliis angustioribus paniculisque strictis.

Hab. Saskatchawan to Bear Lake. *Dr Richardson. Drummond.* Greenland. *Hornemann.*—β. has a very different appearance, and may perhaps prove a distinct species. It is from Carlton House Fort.

14. *P. crocata, Mx. Am.* 1. *p.* 68.—P. fertilis, *Host, Gram. Austr.* 3. *p.* 10. *t.* 14.—P. serotina, *Gaud. et Auct. Am.—Gray, Gram. et Cyp. Part* II. *n.* 120.

Hab. Canada. *Mr Whitlaw.* (*Nuttall*). *Goldie. Mrs Sheppard.* Lake Winipeg to the Rocky Mountains. *Dr Richardson. Drummond.*—Our specimens precisely accord with the figure of Host above quoted.

15. *P. nemoralis. L.—E. Bot. t.* 1265. *Torr. Fl.* 1. *p.*111. *Hook. et Arn. in Bot. of Beech. Voy. p.* 132.—*var.* glauca. P. glauca, *Sm. E. Bot. t.* 1720.

Hab. Saskatchawan, and plains of the Red River. *Drummond. Douglas.* Slave River. *Dr Richardson.* Rocky Mountains. *Drummond.*—As in Europe, so in N. America, this plant seems liable to great variation. From the Rocky Mountains are specimens 2-3 feet high, and stout in proportion, with very broad leaves, and flowers larger and more crowded than usual. The same mountains, however, afford what appears to be exactly an intermediate state.

16. *P. compressa, L.—E. Bot. t.* 365.—*Ph.—Torr.—Gray, Gram. et Cyp. Part* I. *n.* 59.

Hab. Canada to the Saskatchawan. *Dr Richardson. Drummond.*

17. *P. angustata, Br. in Parry's* 1*st Voy. App. p.* cclxxxvii and cccix.

Hab. Arctic Sea-coast and adjacent islands. *Dr Richardson. Sir E. Parry.*

18. *P. abbreviata, Br. in Parry's* 1*st Voy. App. p.* cclxxxvii and cccix. *Hook. et Arn. in Bot. of Beech. Voy. p.* 132.

Hab. Melville Islands and Igloolik. *Sir E. Parry.* Kotzebue's Sound. *Capt. Beechey.* Greenland. *Major Sabine.*

19. *P. glumaris* (*Trin.*); paniculæ angustatæ densæ radiis 2-3 angulato-filiformibus lævibus a basi floriferis, spiculis 2-5-floris pedicello longioribus (glumis flores subæquantibus), perianthiis distinctiuscule nervosis lineari-lanceolatis acutis ad carinam nervosque marginales villosulis nudisve basi barbatis, ligulis brevissimis vel suprema productiuscula, radice repente, culmo tereti. *Trin. in Act. Petrop.* 6. 1. *p.* 379. *Bongard, Veg. Sitcha, p.* 55. (*et in Herb. nostr.*) *Kth. Enum. Gram. p.* 359.

Hab. Unalaschka, Kotzebue's Sound. (*Trinius.*) Sitcha. *Mertens.*—A large and very distinct species.

20. *P. fulva* (*Trin.*); paniculæ (foliis brevioribus) patulæ radiis subquaternis subangulato-filiformibus lævibus inferne nudis, spiculis (subacerosis) 4-6-floris pedicellis subæquilongis vel longioribus, perianthiis obsolete nervosis lanceolato-ellipticis obtusiusculis nudis basi vix barbatis, ligulis productis, radice repente. *Trin. in Act. Petrop.* 6. 1. 378. *Kth. Enum. p.* 359.

Hab. Bay of Eschscholtz, Kotzebue's Sound. (*Trinius.*)

21. *P. stenantha* (*Trin.*); paniculæ contractiusculæ radiis binis (v. pseudo-ternis) solitariisque filiformibus scabriusculis lævibusve inferne nudis, spiculis 2-5-floris pedicellis æquilongis longioribusve, perianthiis obsolete nervosis lanceolato-linearibus acutiusculis ad carinam villosulis inferne pilosiusculis basi subbarbulatis, ligulis productis, radice fibrosa. *Trin. in Act. Petrop.* 6. *t.* 376. *Bongard, Veg. Sitcha, p.* 54. *Kth. Enum. p.* 358.

Hab. Sitcha. *Mertens.* Grassy slopes near the summit of Mount Rainier. N. W. Am. *Tolmie.*—A very distinct species of *Poa*, viviparous in the original specimen I have received from the Imperial Herbarium of St Petersburg.

22. *P. leptocoma* (*Trin.*); paniculæ patentis sæpissime flaccidæ pauciforæ radiis binis subcapillaceo-filiformibus lævissimis superne floriferis, spiculis subtrifloris pedicello subæquilongis vel longioribus, perianthiis subobsolete nervosis lineari-lanceolatis acutiusculis vel carinam villosulis basi contortuplicato-lanatis, ligulis productis, radice fibrosa. *Trin. in Act. Petrop.* 6. 1. 374. *Bongard, Veg. Sitcha, p.* 54.

Hab. Sitcha. *Bongard.*

23. *P. rotundata* (*Trin.*); paniculæ sublineari laxæ radiis subquinis angulato-filiformibus scabriusculis simpliciusculis inferne nudis, spiculis (rotundato-apertis) trifloris brevipedicellatis, perianthiis obsolete nervosis lineari-ellipticis acutiusculis dorso lateribus basique contortuplicato-villosulis, radice subrepente? *Trin. in Act. Petrop.* 6. 1. 378. *Kth. Enum. p.* 359.

Hab. Unalaschka. (*Trinius.*)

32. GLYCERIA. *Br. Kth.*

1. *G. aquatica, Sm.—Kth.*—Poa aquatica, *L.—E. Bot. t.* 1315. *Torr. Fl.* 1. *p.* 107. (*var.* Americana). *Gray, Gram. et Cyp. Part* I. *p.* 58.—β. humilis.

Hab. Lake Winipeg to the Saskatchawan. *Dr Richardson. Drummond.* Marshes near the Western Ocean. *Douglas.*—β. Rocky Mountains. *Drummond.*—The var. β. is scarcely a foot high, with smaller and less branched panicles than usual.

2. *G. arctica* (n. sp.); panicula erecta (statu juniori) contracta, spiculis erectis elongatis compresso-cylindraceis 7-8-floris, glumis inæqualibus flosculo inferiore breviori-bus obtusis, perianthii valvulis tenui-membranaceis lævibus obtusis, foliis lineari-setaceis. (Tab. CCXXIX.)

Hab. Arctic Sea-coast. *Dr Richardson.*—I possess but one specimen of this plant, which is different from any *Poa* or *Glyceria* with which I am acquainted. It is scarcely a foot high, flaccid; leaves much tufted at the base, a span long. Culm leafy to the top. Panicle 3 inches long, erect. Florets distichous, erect, slightly imbricated, green, tipped with reddish-purple; texture of the glumes thin and membranaceous.

Tab. CCXXIX.—*Fig.* 1. Spikelet; *f.* 2. Glumes; *f.* 3. Florets :—*magnified.*

3. *G. fluitans, Br.—Torr. Fl.* 1. *p.* 106. *Gray, Gram. et Cyp. Part* I. *n.* 48.—G. spectabilis, *M. et K. Fl. Germ.—Bongard, Veg. Sitcha, p.* 54.—Festuca fluit. *L.*—Poa, *E. Bot. t.* 1520.—*Mx.*

Hab. Saskatchawan. *Drummond.*

4. *G. pauciflora* (*Presl*); panicula erecta compposita patentissima, spiculis 4-floris patentibus, glumis rotundatis uninerviis, palea inferiore quinquenervia, radice repente. *Presl, in Reliq. Haenk.* 1. *p.* 257.

Hab. Nutka Sound.—" Affinis *G. fluitanti*, sed distincta." *Presl.*

5. *G. nervata, Trin. in Act. Petrop.* 6. 1. 365.—G. Michauxii, *Kth. Gram.* 1. 118. 343. *t.* 85.—Poa nervata, *Willd.—Ph.—Torr.—Gray, Gram. et Cyp. Part* II. *n.* 57.—P. striata, *Mx.*

Hab. Rocky Mountains. *Drummond.*

6. G. *elongata, Trin.*—Poa elongata, *Torr. Fl.* 1. *p.* 122. (*non Willd.*)—P. Torreyana, *Spreng.—Gray, Gram. et Cyp. Part* II. *n.* 56. *Kth. Enum. p.* 333.

Hab. Canada. *Mrs Perceval.*

7. *G. obtusa, Trin.*—Poa obtusa, *Muhl.*—*Torrey Fl.* 1. *p.* 112. (*non Nutt.*) *Gray, Gram. et Cyp. Part* II. *n.* 55.

Hab. Canada. *Goldie.*

8. *G. Canadensis, Trin.*—Poa Canadensis, *Torr. Fl. p.* 112. *Gray, Gram. et Cyp. Part* II. *n.* 121.—Briza Canadensis, *Mx.*

Hab. Canada. *Goldie.* Saskatchawan. *Dr Richardson. Drummond.*

33. PLEUROPOGON. *Br.*

1. *P. Sabinii, Br. in Parry's* 1*st Voy. App. p.* clxxxix. *t.* D. *f.* 1-10.—*α. elatior;* subspithamæus, antheris stramineis. *f.* 1—7.—*β. humilior;* 3-4 uncialis, antheris purpureis. *f.* 8-10.

Hab. Melville Island. *Capt. Sabine.*

34. REBOULEA. *Kth.*

1. *R. gracilis, Kth. Gram.* 1. *p.* 341. *t.* 84.—Aira obtusata, et A. melicoides, *Mx. Ph.*—Koeleria Pennsylvanica, *DC.—Torr. Fl.* 1. *p.* 116. (*fide Kth.*)—K. truncata, *Torr. l. c. p.* 116. *Gray, Gram. et Cyp.* 1. *n.* 44.—Aira truncata, *Mx.*

Hab. Near the Falls of Niagara. *B. D. Greene, Esq.* Saskatchawan to the Rocky Mountains. *Dr Richardson. Drummond.*

35. CATABROSA. *P. Beauv.*

1. *C. aquatica, P. Beauv. Agrost. p.* 97. *t.* 19. *f.* 8.—Aira aquatica, *L.—E. Bot. t.* 1557.

Hab. York Factory, Hudson's Bay to the Rocky Mountains. *Drummond.*

36. KOELERIA. *Pers.*

1. *K. cristata, Pers.—Gray, Gram. et Cyp. Part* I. *n.* 45.—*Torr.—Kth.*—Aira cristata, *L.—E. Bot. t.* 648.

Hab. Lake Winipeg and the Red River to the Saskatchawan and to the Rocky Mountains. *Dr Richardson. Douglas. Drummond.* Arid gravelly soils near the confluence of the Columbia with the sea. *Douglas.*

37. FESTUCA. *L.*

1. *F. Myurus, L.—E. Bot. t.* 1412.

Hab. Menzies Island and shores of the Columbia River. N. W. Am. *Douglas. Dr Scouler.*

2. *F. occidentalis;* glaberrima, panicula composita erectiuscula laxa, spiculis 4-floris, flosculis stipitatis laxe imbricatis subcylindraceis, glumis parvis valde inæqualibus apice

obtusis ciliatis, perianthii valv. ext. obsoletissime nervosa, arista scabriuscula recta flosculam superante, foliis angustissimis lineari-filiformibus, foliorum vaginis longissimis.

Hab. Plains and elevated grounds of the Columbia, near the sea. *Dr Scouler. Douglas.*—Root tufted. Culms cæspitose, 1½ to 2 feet high. Leaves principally radical, one-fourth the length of the culms, 3 or 4 on the culm, distant, but the culm is almost wholly concealed by their remarkably long, sheathing bases. Panicle 5-6 inches long; branches slender, again divided, more or less long, and more or less patent. Spikelets small in proportion to the size of the panicle, green, glossy, smooth. Awns about equal in length to the perianth. Glumes short and obtuse, especially the upper or inner one, which is about twice as long as the outer one, yet not half so long as the floral valves. Inner valve of the floret as long as the outer, acute, flat at the back, but the margins closely inflexed.

3. *F. ovina, L.—E. Bot. t.* 585.

Hab. Lake Winipeg to the Saskatchawan and the Bear Lake. *Dr Richardson.* Rocky Mountains. *Drummond.*—Some of the specimens are a foot and a foot and a half long, but differing in no essential particular from our European *F. ovina.*

4. *F. brevifolia;* racemo subsimplici erecto, flosculis teretibus supra scabriusculis arista duplo longioribus, foliis setaceis vaginisque lævibus, culmeo supremo multoties breviore vagina sua laxiuscula. *Br. in Parry's 1st Voy. App. p.* cclxxxix. et cccix. *Hook. in Parry's 2d Voy. App. p.* 408, *and in Parry's 4th Voy. App. p.* 213.

Hab. Arctic Sea-coast and Islands. *Sir E. Parry. Dr Richardson.* Rocky Mountains. *Drummond.*

5. *F. subulata* (*Bong.*); flosculis lanceolato-linearibus (angustissimis) subobsolete nervosis subulatis, subula iisdem æquilonga vel longiori, foliis omnibus planis, radice fibrosa vel subrepente. *Bong. Veget. Sitcha, p.* 55.

Hab. Sitcha. *Mertens.*

6. *F. rubra, L.—E. Bot. t.* 2056.—*Bongard, Veg. Sitcha, p.* 55.—F. duriuscula, *Hook. et Arn. Bot. of Beech. Voy. p.* 132.—*var.* 1. spiculis hirsutis.—*var.* 2. racemo subsimplici, spiculis valde hirsutis paucifloris nunc flosculis viviparis.

Hab. Canada. *Mrs Perceval.* York Factory, Hudson's Bay. *Drummond.* Kotzebue's Sound. *Beechey.* Greenland (*Hornemann.*)—*Var.* 1. Fort Vancouver.—*var.* 2. Cumberland House Fort, Bear Lake, and Arctic America. *Dr Richardson.* (*viviparous;*) Saskatchawan to Hudson's Bay. *Drummond.* Greenland. *Hornemann.*—In the more northern latitudes this species frequently becomes very hairy in its floscules, and of a dark purplish colour. I have referred the *F. duriuscula* of the Bot. of Beech. Voy. hither, because, like all my specimens which possess a root at all, that root is creeping.

7. *F. Richardsoni;* humilis, racemo simplici brevi, spiculis approximatis compressis ovatis tri-quadri-floris dense villosis, glumis inæqualibus (majore flosculo breviore), perianthii valvula ext. lato-ovata subcompresso-carinata in aristam perbrevem acuminata, foliis brevibus angusto-linearibus planis, radice repente. (Tab. CCXXX.)

Radix repens stolonifera. *Culmus* basi geniculatus, digitalis ad spithamæam, versus basin præcipue foliosus. *Folia* 1-3 uncias longa vix ⅓ lineam lata, angusto-linearia, obtusa, flaccida, plana. *Racemus* unciam sesqui-

unciam longus, simplex vel rarissime subcompositus. *Spiculæ* 6-8, approximatæ, ovatæ, breviter pedicellatæ, dense pilosæ. *Glumæ* oblongo-ovatæ, cymbiformes, obtusæ, inæquales, flosculis breviores, tri-quadrifloræ, compressæ. *Flosculi* compressi; *perianthii* valvula exterior late ovata, complicato-carinata, fusco-purpurea, margine hyalina, apice in aristam perbrevem sensim acuminata: interior bicarinata, ad carinas hirsuta.

Hab. Arctic Sea-coast. *Dr Richardson.*—This appears to be a very distinct species from any with which I am acquainted.

Tab. CCXXX.—*Fig.* 1. Spikelet; *f.* 2. Calycine glume; *f.* 3. Perianth; *f.* 4. Anterior view of the inner, and *f.* 5. posterior view of the inner valve of the perianth:—*magnified.*

8. *F.* (Schœnodorus) *pratensis, Huds.—E. Bot. t.* 1592. *Torr. Fl.* 1. *p.* 121. *Gray, Gram. et Cyp. Part* II. *n.* 125.

Hab. Dry plains of the Columbia, and towards the mountains. *Douglas.*

9. *F.* (Schœnodorus) *borealis* (*Mert.*); panicula laxa erectiuscula ramis, primariis subverticillatis, spiculis oblongis sub-4-floris, glumis subæqualibus longitudine fere spiculæ, flosculis teretibus basi fasciculato-pilosis, perianthii valvula exteriore 7-nervi apice breviaristata lacerata interiore apice bidentata, foliis lato-linearibus planis asperis. (Tab. CCXXXI.)—*Mert. et Koch, Fl. Germ.* 1. *p.* 664. *Kth. Enum. p.* 404.

Hab. Carlton House Fort, on the Saskatchawan.—This fine grass is considered by Dr Torrey to be the same with the *F. borealis* of Mert. and Koch; and it must be confessed that it agrees pretty well with their description; but I have no authentic specimen of that plant by which to certify the opinion, and there are some slight discrepancies. The culm in our specimens is as thick as a swan's quill, 3-4 or more feet high, leaves 8-10 inches long, broadly linear-acuminate, rough to the touch. Panicle a foot and more long, almost quite erect, as well as the subverticillate slender branches. Spikelet erect, $\frac{1}{2}$ to $\frac{3}{4}$ths of an inch long, scattered or subfascicled, sessile or pedicellate, generally 4-flowered. Glumes unequal, convex, rounded at the back, not keeled, the outer one shorter than the florets, acute, entire at the point, the middle nerve reaching beyond the point, so as to form a short arista, there are besides, on each side, two short lateral nerves; the inner glume as long as the whole spikelet of florets, torn at the point, aristate, the middle nerve reaching beyond the point; there are besides, 2 lateral nerves reaching to the apex, and 2 intermediate shorter ones. Florets cylindrical, closely placed, with a tuft of white hairs at the base of each; outer valve of the perianth jagged at the point, shortly aristate, with 7 nerves reaching to the summit: the inner lanceolate, the margin inflected, with 2 strong, green, ciliated, nerves at the flexures, running out so as to form a bifid apex; upper floret smaller than the rest.

Tab. CCXXXI.—*Fig.* 1. Spikelet; *f.* 2. Inner glume; *f.* 3. Outer do.; *f.* 4. Perianth:—*magnified.*

10. *F.* (Schœnodorus) *nervosa;* panicula erecto-patens laxa, spiculis oblongis compressis remote 7-8-floris glumis inæqualibus lævibus, superiore longitudine fere flosculi, flosculis scabris lineari-oblongis acute carinatis conduplicato-compressis acutis nervosis, nervis 5 elevatis, foliis planis linearibus.—(Tab. CCXXXII.)

Hab. Nutka Sound. *Dr Scouler.*—Root creeping. Culms cæspitose, 1½-2 feet high, slender, wiry. Leaves flaccid, linear. Panicle 3-4 to 6 inches long, lower branches long and capillary. Spikelets oblong, the flowers remote, and the rachis peculiarly zigzag. These florets are remarkable for being very much com-

pressed ; the outer valve completely conduplicate, with a sharp keel, the lateral form (being thus doubled) is linear-oblong, with one nerve at the keel, and two very prominent ones on each side ; the apex rather acute, the whole scabrous ; inner valve bifid at the point, prominently two-keeled at the back, the keels scabrous.

Tab. CCXXXII.—*Fig.* 1. Spikelet ; *f.* 2. Glumes ; *f.* 3. Floret :—*magnified.*

11. *F. scabrella;* panicula erecta, ramis patentibus, spiculis 3-4-floris teretibus minute scabrellis, perianthii valvula exteriore 5-nervi in aristam perbrevem acuminata, interiore apice bifida, marginibus inflexis ad flexuras nervosis, foliis plerisque radicalibus angusto-linearibus ad vaginam cito deciduis. (Tab. CCXXXIII.)—F. scabrella, *Torr. Mst.*

Culmi pedales, erecti, cæspitosi, striati, subunifoliati, glabri ; folio anguste lineari-acuminato vix duas uncias longo, vagina longissima sub lente scabriuscula : reliqua folia etiam glabra, pleraque radicalia, membranaceo-vaginata, angusto-linearia, 3-4 pollicaria, ad vaginas articulata, cito decidua. *Panicula* composita, 3-4 pollicaris, erecta ; *rami* patentes, versus apicem spicigeri. *Spiculæ* viridi-purpureæ, 3-plerumque 4-floræ, ovatæ, $\frac{3}{4}$ unciam longæ, extus tactu vel sub lente minute scabrellæ. *Glumæ* inæquales, acutæ, flosculis subduplo breviores, enerves, muticæ. *Flosculi* teretes ; *perianthii* valvula exterior quinquenervis, in aristam perbrevem sensim acuminata ; interior lanceolata, plana, marginibus inflexis ad flexuras uninervibus scabris, apice bifida.

Hab. Alpine districts of the Rocky Mountains. *Drummond.*—This is a very distinct, and highly peculiar species. There is seldom more than one leaf on the culm. The rest are radical, and have broad membranous sheathing bases, from the top of which the blade of the leaf is very deciduous. The texture of the florets is soft and membranaceous.

Tab. CCXXXIII.—*Fig.* 1. Spikelet ; *f.* 2. Perianth :—*magnified.*

38. BROMUS. *L.*

1. *B. purgans, L.—Rich. in Frankl. 1st Journ. ed. 2. App. p. 3. Torr. Fl. 1. p. 128.*

This appears to me, judging from the specimens before me, to be a species that varies much according to age and locality. In its more usual form the panicle and spikelets very much resemble our Europæan *B. erectus;* but the great breadth of the hairy leaves will at all times distinguish it. As has been already suggested in the Botany of Capt. Beechey's Voyage, p. 119., probably the *B. pubescens* of Muhl., the *B. Canadensis,* Mich., the *B. ciliatus* of Linn., and the *B. purgans* are all vars. of one and the same species. It will be seen in the " Flora of the Northern and Middle United States," how doubtful Dr Torrey himself is about those reputed species. The following are what I should enumerate as vars. In speaking of the hairiness of the florets, I would be understood as alluding to the outer valve of the perianth : the inner is always beautifully ciliated at the flexure of the margin.

α. *vulgaris ;* panicula elongata laxa, spiculis angustis 6-8-floris viridibus, flosculis sericeo-villosis.—Hab. Canada to the Saskatchawan. *Goldie. Dr Richardson.* Red River. *Douglas.* Columbia. *Dr Scouler.*—subvar. *a.* flosculis glabris vel ad nervos tantum rarius ciliatis.—Hab. Fort Norman. *Dr Richardson.*

β. *pallidus ;* panicula densa subcorymbosa, spiculis paullo latioribus magis compressis pallide virentibus 6-7-floris, flosculis marginibus sericeo-villosis.—Hab. Saskatchawan to the Rocky Mountains. *Drummond.*

γ. *purpurascens ;* panicula elongata laxiuscula, spiculis latioribus 6-8-floris viridi-purpurascentibus marginibus præcipue sericeo-villosis.—Hab. Bear Lake to the Arctic sea-coast. *Dr Richardson.*

δ. *longispicata ;* panicula densa subcorymbosa, spiculis latioribus biuncialibus viridi-purpurascentibus marginibus præcipue sericeo-villosis.—Hab. Rocky Mountains. *Drummond.*

2. *B. Sitchensis* (*Bong.*); panicula patula (demum patente?) nutante, spiculis 5-7-floris, flosculis lanceolatis setis terminalibus rectis valvula paullo brevioribus, ligula oblonga producta. *Bong. Veget. Sitcha, p.* 55.

Hab. Sitcha. *Mertens.*—"Maxime affinis *Br. pendulino*, Sesse, (Roem. et Sch. 2. p. 644,) cui et habitu simillimus (nam radii inferiores longi, in speciminibus junioribus nostris patuli tantum, demum fortasse patentes), differt potissimum setis, flosculorum longioribus, ligula magna rotundata (nec brevi truncata,) ut in *Br. pendulino*, et foliis majoribus." *Bongard.*

39. CERATOCHLOA. *P. Beauv.*

1. *C. brevi-aristata;* panicula elongata laxa subnutante, spiculis lanceolatis ancipiti-compressis glabris (sub lente scabris), glumis subinæqualibus acutis submuticis nervosis, perianthii valvula exteriore acute carinata multinervi brevi-aristata, foliis lato-linearibus villosulis, vaginis villoso-tomentosis. (Tab. CCXXXIV.)

Hab. Dry elevated ground of Lewis' and Clarke's River, and near the sources of the Columbia. *Douglas.*—Culm 2-3 feet high, near the base as thick as a swan's quill. Leaves very broadly linear-acuminate, slightly hairy. Ligule ovate, membranaceous, white. Panicle 8-10 inches long, slightly compound, erect, or a little drooping to one side. Spikelets inclined (not drooping), an inch or an inch and a quarter long, lanceolate, remarkably compressed, sharply 2-edged, of a harsh and rigid texture, of a pale uniform green colour, minutely scabrous, more so on the keel. Glumes moderately unequal, lanceolate, acutely carinate, gradually coming to a point, not aristate, shorter than the florets, outer about 5, inner about 9-nerved. Exterior valve of the perianth complicato-compressed, sharply carinate, 9-or more nerved, having a very evident, but short, straight awn, from between the slightly bifid points. Inner valve scarcely half so long as the outer, narrow, lanceolate, bifid at the point, the margins sharply inflexed; at the flexures there is a strong ciliated green nerve. Stamens 3. Filaments, apparently, in the advanced state of the flower, incorporated with the ovary, for I can in no instance trace them, till they become free at the top of the crest of the germen. Anthers (abortive?) small, ovate. Ovary and young fruit oblong with a deep furrow in the inner face, crowned with a 3-lobed whitish hairy crest. Allied to *Ceratochloa unioloides*, Beauv. (which has been found in Texas by Mr Drummond, No. 376, of his 3d Coll.) but very different in the foliage and in the presence of a distinct awn to the florets.

Tab. CCXXXIV.—*Fig.* 1. Spikelet; *f.* 2. Glumes; *f.* 3. Perianth; *f.* 4. Outer view of an inner valve of do.; *f.* 5. Immature fruit:—*magnified.*

2. *C. grandiflora;* panicula subsimplici laxa, spiculis valde compressis subancipitibus pubescenti-scabris 10-11-floris, glumis subæqualibus acuminatis vix aristatis 9-nerviis carinatis, perianthii valvula exteriore compresso-carinata 9-nervi arista stricta valvulæ dimidio longitudinis terminata, foliis lanceolato-linearibus vaginisque hirsutulis. (Tab. CCXXXV.)

Hab. Common on the plains of the Columbia. *Dr Scouler. Douglas.*—Allied to the last in its compressed florets, but quite distinct. The spikelets are in some of the specimens much longer than in any species of the genus I am acquainted with. Although the florets are carinated they are less so than in the preceding species, and more remote on the rachis: the awn, too, is far longer than in that species. The inner valve is gradually attenuated into a long acumen, deeply bifid at the point. In the flowering spikelets, the filaments may easily be traced to the base of the ovary; but in a more advanced state, the lower part of the filaments pro-

bably deliquesces, while the upper seems to adhere, by a glutinous substance, to the crest of the ovary, and then the portion above the ovary seems to have its origin from the top of that body, and to continue there till nearly the perfection of the fruit. The hypogynous scales are 2, broadly obovate, large, but so thin and delicate, that I cannot trace them in the more advanced state of the flower. From an examination of more than one spikelet, it would appear that the lower florets bear abortive stamens, with small and short anthers; the upper ones abortive pistils, with very large linear anthers. In both, the inner valve of the perianth adheres to the ovary as it advances to maturity.

Tab. CCXXXV.—*Fig.* 1. Spikelet; *f.* 2. More advanced do.; *f.* 3. Inner view of inner valve of the perianth; *f.* 4. Ovary and stamens from a lower floret; *f.* 5. Do., and hypogynous scales from an upper floret:—*magnified.*

40. BRIZOPYRUM. *Presl.*

1. *B. spicatum, Hook. et Arn. Bot. of Beech. Voy. p.* 403.—B. boreale, *Presl, in Reliq. Haenk.* 1. *p.* 280.—Uniola spicata, *L.—Torr. Fl.* 1. *p.* 105. *Gray, Gram. et Cyp. Part* I. *n.* 49.—U. stricta, *Torr. in Am. of Lyc.* 1. *p.* 55.—U. multiflora, *Nutt.*—Festuca distichophylla, *Mx.— Ph.*—Poa Michauxii, *Kth. Enum. p.* 325.

Hab. Plains of the Red and Saskatchawan Rivers, to the Rocky Mountains. *Dr Richardson. Drummond. Douglas.* De Fuca, N. W. Coast. *Dr Scouler.* Nutka. *Mertens.*—We have observed in the Botany of Beechey's Voyage, that this plant is bisexual, and there is a slight difference between the flowers of the two sexes, which has led to the separation of the species.

41. TRITICUM. *L.*

1. *T.* (Agropyrum) *junceum, L.—E. Bot. t.* 814.

Hab. Rocky Mountains. *Drummond.* Low plains of the Columbia. *Douglas.*

2. *T.* (Agropyrum) *repens, L.—E. Bot. t.* 909. *Torr. Fl.* 1. 135.—*α.* vulgare.—*β. minus;* spica breviore.—*γ. purpurascens;* spica parva, spiculis purpurascentibus, flosculis aristatis.—*δ. subvillosum;* spica elongata, spiculis subvillosis.—*ε. nanum;* spica breviore, flosculis subsericeo-villosis.—*ζ. dasystachyum;* elatum, spicis majoribus, spiculis dense sericeo-villosis.

Hab. *α.* Saskatchawan to the Rocky Mountains and to the Mackenzie River. *Dr Richardson. Drummond.* Arid barren grounds at the junction of Lewis and Clarke's Rivers with the Columbia.—*β.* Rocky Mountains. *Drummond.*—*γ.* Bear Lake to the Arctic sea-coast. *Dr Richardson.*—*δ.* Fort Norman, on the Mackenzie River. *Dr Richardson.*—*ε.* Arctic sea-coast. *Dr Richardson.*—*ζ.* Carlton House Fort, on the Saskatchawan. *Dr Richardson.*—All the above I am quite disposed to consider as mere forms of one and the same species, varying according to soil, locality, &c. The last var., *dasystachyum,* very much resembles the *T. dasyanthum,* Spr. (Agropyrum, *Schultes Mant. p.* 400.) but that from its obtuse florets and involute leaves, I would rather refer to a hairy state of *T. junceum.*

3. *T.* (Agropyrum) *caninum, Schreb.—E. Bot. t.* 1372. *Torr. Fl.* 1. *p.* 136.—*β. Gmelini* (Ledeb.); aristis validis demum patenti-reflexis. *Ledeb. Ic. Pl. Ross. Altaic. Illustr. t.* 248.—Bromus strigosus. *Bieb.*

Hab. Lake Winipeg to the Saskatchawan. *Dr Richardson. Drummond.* Plains of the Multnomak river, N. W. Am. *Douglas.*—β. Near the great falls of the Columbia, N. W. Am. *Douglas.*—The *var.* β. has so remarkable an appearance from its strong horizontal, almost reflexed awns, that at first sight, I did not hesitate to consider it a distinct species, as others have done with the same state of the plant: for it is, according to authentic specimens in my Herbarium, the *Agropyrum ægilopoides* of Ledebour's mst. (in Herb. nostr.) from the Altai; and the *Bromus strigosus*, Rich. from the mountains of Tauria; but Ledebour has determined correctly, we doubt not, that it is a variety of *T. caninum*.

42. ELYMUS. *L.*

1. *E. arenarius, L.—E. Bot. t.* 1672. *Hook. et Arn. Bot. of Beech. Voy. pp.* 119, 132.

Hab. Canada. (Quebec.) *Mrs Perceval.* Labrador. *Dr Morrison. Miss Brenton.* Saskatchawan to Bear Lake, and the extreme Arctic shores and islands. *Dr Richardson. Drummond. Sir E. Parry.* N. W. Am. from the Columbia to Kotzebue's Sound. *Dr Scouler. Douglas. Capt. Beechey.*

2. *E. mollis, Br. in Frankl. Journ. ed.* 2. *App. p.* 3.—*E. mollis, Trin. in Spreng. N. Entd.* 2. 72? *Bong. Veget. Sitcha, p.* 56 ?—E. dasystachys. *Trin. in Ledeb. Ic. Pl. Ross. Alt. Illustr. t.* 249.—β. spicis minoribus hirsutissimis, spiculis 2-3 floris.

Hab. Saskatchawan to Bear Lake and the Arctic shores, and β. Garry's island. *Dr Richardson. Drummond.*—Ledebour's *E. dasystachys,* from the Altaic mountains, is precisely the same as our *E. mollis;* and his β. of that plant seems to be the same as our β. The flowers of the largest specimens are always smaller than those of *E. arenarius,* which has nevertheless frequently very soft and hairy spikes. I have never seen authentic specimens of the *E. mollis* of Trinius; Bongard says that it scarcely differs from *E. arenarius,* except in its plane leaves.

3. *E. hirsutus* (Presl); culmo compresso? vaginisque glabris, foliis scabris subtus hirsutis, spica erecta, spiculis hirtis trifloris, glumis sub-quinquenerviis, palea inferiore quinquenervia scabra arista breviore. *Presl, in Reliq. Haenk.* 1. *p.* 264.

Hab. Nutka Sound. (Presl).—Affinis *E. Europæo* (*Presl*).

4. *E. Sibiricus, L.—Bong. Veget. Sitcha, p.* 56. *Schreb. Gram.* 1. *t.* 21. *f.* 1. *Gmel. Sib.* 1. *t.* 28.

Hab. Sitcha. *Mertens.*—"Flosculi et involucella in gramine harum regionum superne ciliatuli." *Bong.*

5. *E. Canadensis, L.—Ph.—Torr. Fl.* 1. *p.* 137. *Rich. App. p.* 3. *Gray, Gram. et Cyp. Part* I. *n.* 63.—E. Philadelphicus. *L.*—E. glaucifolius. *Willd. Ph.*—β. spicis fuscescentibus dense villosis.

Hab. Canada to the Saskatchawan. *Drummond.* Slave River. *Dr Richardson.*—β. Rocky Mountains. *Drummond.*—This should be compared with authentic specimens of *E. Sibiricus.* What I have from Ledebour as that species, does not seem to differ; but the spikes are in a starved state, while those from Gouan's Herbarium are precisely the same. The figures of Gmelin and Schreber by no means disagree with our *E. Canadensis.*

6. *E. Virginicus, L.—Mx.—Ph.—Torr. Fl.* 1. *p.* 137. *Gray, Gram. et Cyp. Part* I. *n.* 60.—β. *submuticus;* glumis flosculisque brevissime aristatis.

Hab. β. Cumberland House Fort, on the Saskatchawan. *Drummond.* Common on the shores of lakes and rivers to the east of the Rocky Mountains, but never found to the west of that range. *Douglas.*—The true *E. Virginicus* I possess from various parts of the United States, and even as far north as Boston, with the glumes and outer valve of the florets tapering into a long awn; but all the specimens found by Mr Drummond and Mr Douglas have scarcely an awn at all: yet I can perceive no other difference. The *E. Dahuricus* of Turcznaninow (in Herb. nostr.) from Dahuria, I cannot distinguish from *E. Virginicus.*

7. *E. villosus, Muhl.—Ph.—Torr. Fl.* 1. *p.* 138. *Gray, Gram. et Cyp. Part* I. *n.* 62.

Hab. Canada. *Goldie.*—Dr Torrey and the American Botanists, I believe, are disposed to consider the *E. striatus,* Willd., as identical with *E. villosus.* The whole genus needs a very careful revision.

8. *E. Europæus, L.—E. Bot. t.* 1317.

Hab. Canada. *Mrs Perceval.*—I have closely compared this specimen from Canada with our own *E. Europæus,* and it entirely accords; but I must at the same time remark that *E. villosus* appears to me to be a hairy state of the same plant.

43. ASPRELLA. *Humb.*

1. *A. Hystrix, Willd.—Kth. Enum. p.* 454.—Elymus Hystrix, *L.—Muhl.—Torr. Fl.* 1. *p.* 138. *Gray, Gram. et Cyp. Part* II. *n.* 130.—Gymnostichum Hystrix, *Schreb. Gram. t.* 47.

Hab. Canada. *Goldie;* to the Saskatchawan. *Drummond.*

44. HORDEUM. *L.*

1. *H. pratense, Huds.—E. Bot. t.* 156.—H. secalinum, *Schreb.—Host, Gram. Austr.* 1. *p.* 33. *Bong. Veget. Sitcha, p.* 56.

Hab. Sitcha. *Mertens.* Common on the plains of the Columbia near the sea. *Douglas.*

2. *H. jubatum, L.—Ph.—Torr. Fl.* 1. *p.* 158. *Rich. App. p.* 3.

Hab. Plains of the Saskatchawan to the Mackenzie River. *Dr Richardson. Drummond.* Frequent on the low grounds near the confluence of the Columbia with the sea. *Douglas.*

X. Andropogoneæ.

45. ANDROPOGON. *L. Kth.*

1. *A. scoparius, Mx.—Ph.—Torr. Fl.* 1. *p.* 136. *Gray, Gram. et Cyp. Part* II. *n.* 64. —A. dissitiflorus, *Mx.* (*fide Gray*).—A. purpurascens, *Muhl.*

Hab. Banks of the Saskatchawan. *Drummond.*

2. *A. furcatus, Muhl.—Ph.—Torr. Fl.* 1. *p.* 137. *Gray, Gram. et. Cyp. Part* I. *n.* 63.

Hab. Lake Huron, *Dr Todd;* to the Saskatchawan and the Rocky Mountains, *Dr Richardson, Drummond;* and Hudson's Bay, *Douglas.*

3. *A.* (Sorghum, *Nees*) *avenaceus. Mx.*—A. nutans. *L. ?—Muhl.—Torr. Fl.* 1. *p.* 157. *Gray, Gram. et Cyp. Part* I. *n.* 87.

Hab. Saskatchawan. *Drummond.*—This is perhaps the northern limit of this handsome grass. It is more frequent in the south, and according to Kunth, it extends to the West Indies and South America, and is the *A. stipoides,* H. B. K., and the *Sorghum parviflorum* of Hamilt. Prodr. Fl. Ind. Occ.

(Add at p. 233, after *Alopecurus aristulatus;*

2* *A. cæspitosus* (*Trin.*); pusillus, thyrso cylindraceo-oblongo, glumis ad basin usque fissis acutiusculis glabriusculis pectinatis, valvula truncato-obtusa, stylis inferne connatis. *Trin. Gram. Ic. t.* 241.

Hab. Rocky Mountains. *Drummond.*—A very small species, scarcely 3 inches high, with lax, somewhat interrupted and lobed spikes of a tawny green colour: the glumes fringed or pectinated at the keel, and as well as the perianth truncated at the top. The awn is scarcely longer than the valve. It is beautifully figured by Trinius in the work above quoted, and, I presume, from specimens which I gave to the late Mr Prescott; but no station is mentioned further than that the specimen is "boreali-Americanum."

And at p. 239, after *Vilfa tenacissima;*

3. *V. depauperata* (*Torr. mst.*); rigida, culmo brevi dichotome ramoso striato glabro fere toto vaginato, foliis lineari-subulatis vaginis margine membranaceis, ligulis ovatis obtusis, racemo composito sub-paniculato paucifloro, glumis inæqualibus ovatis obtusis membranaceis enervibus perianthio $\frac{1}{3}$ brevioribus, perianthii valvulis subæqualibus lanceolatis chartaceis acutissimis. (Tab. CCXXXVI.)

Tota glaberrima, rigida. *Culmus* 4-6 uncias longus, decumbens, supra basin dichotome ramosus, teres, striatus, per totam fere longitudinem vaginatus; *rami* geniculati, flexuosi, articulis sesquiuncialibus. *Folia* parva, inferiora vix unciam, superiora 2-3 lineas longa, lineari-subulata, rigida, striata. *Vaginæ* ad margines membranaceæ. *Ligulæ* obtusæ, in marginem vaginarum decurrentes. *Panicula* parva subsimplex, fere *racemus,* vix unciam longa, erecta, 8-10 flora. *Pedicelli* breves, striati, glabri, erecti. *Spiculæ* erectæ. *Glumæ* inæquales, ovatæ, obtusæ, membranaceæ, subhyalinæ, dorso obscure uninervio, perianthio $\frac{1}{3}$ breviores. *Perianthii* valvulæ subchartaceæ, æquales, concavæ vix carinatæ, lanceolatæ, obscure trinerviæ; exterior acutissima nuda; interior apice bifida.

Hab. N. W. America. Barren sandy parts of the Columbia from Menzies' island upwards. *Douglas.*—A very distinct species from any I have seen. Dr Torrey considers its place as between *V. virgata* and *V. vaginæfolia.*

Tab. CCXXXVI.—*Fig.* 1. Spikelet; *f.* 2. Glumes; *f.* 3. Perianth:—*magnified.*)

Cl. III. ACOTYLEDONEÆ.

Ord. I. FILICES.

Trib. I. Polypodiaceæ.

1. POLYPODIUM. *L.*

1. *P. vulgare, L.—E. Bot. t.* 1149.—*Ph.—Rich. App. p.* 39.—*β. Americanum;* minus, fronde angustiore, laciniis remotioribus. P. Virginianum, *Linn. Sp. Pl. p.* 1345 (*excl. Syn. Plum. &c.*). *Ph.—γ. occidentale;* frondis laciniis acutis acute serratis. P. vulgare, Virginianum. *Bong. Veg. Sitcha, p.* 57.

Hab. *β.* Canada. *Pursh, Mrs Perceval, Mrs Sheppard;* to the Saskatchawan and Slave River. *Dr Richardson. Drummond.—γ.* N. W. Am. On rocks and decayed wood, common near the confluence of the Columbia with the sea. *Douglas.* Sitcha. *Mertens.* (*in Herb. nostr.*)—The common state of this plant throughout the United States and in British N. America, is to be smaller than the European form, with narrower and more oblong fronds, with laciniæ more distant, and the sori nearer the margin. This is no doubt the *P. Virginianum* of Linnæus and authors, as far as regards the Virginia plant, on which Linnæus founded his character :—the synonyms which he has adduced, or at least that of Plumier, belong I think rather to the following. The Columbian and Sitcha variety is different from any I have seen, yet cannot in my opinion be distinguished as a species from this, which we know is a very variable Fern. Mertens' plant from Sitcha described by Bongard, is identical with the Columbian one.

2. *P. intermedium;* fronde ovali-lanceolata membranacea pellucida fere ad rachin pinnatifida, laciniis oblongis acutiusculis serratis glabris, venulis (3-4) distinctis liberis vel rarissime sub margine anastomosantibus, soris ovalibus solitaris. *Hook. et Arn. Bot. of Beech. Voy. p.* 405. *Plum. Fil. p.* 60. *t.* 77.

Hab. Columbia. *Dr Scouler.*— On referring to Plumier's figure above quoted (a W. Indian Plant), to see how far it agreed with any N. American Fern (Linnæus having referred to it as his *P. Virginianum*), I find it agrees so well with this plant, that I have little hesitation in considering it the same ; and the more so from observing that the species is also a native of St Vincent, whence I have received specimens from the late Mr Guilding.

3. *P.* (Marginaria) *Californicum, Kaulf.—Hook. et Grev. Ic. Fil. t.* 56. *Hook. et Arn. Bot. of Beechey's Voy. p.* 161 *and* 405.

Hab. N. W. America. Moist Rocks, Columbia river. *Dr Scouler.*

4. *P. Phegopteris, L.—α. minus;* subrigidum, pinnarum infimarum laciniis omnibus subintegerrimis, venulis fere omnibus simplicibus, soris densis marginatis, *E. Bot. t.* 224. *Schkuhr, Fil. Tab.* 20.—*β. intermedium;* tenuius, pinnarum inferiarum laciniis crenatolobatis venulisque furcatis, soris submarginalibus.—P. connectile? *Mx.—Willd.—Ph.—γ. majus;* tenue, pinnis distantibus inferiarum plurium laciniis remotiusculis elongatis pinnatifidis, venulis plurimis furcatis.—P. Phegopteris, *γ. Schkuhr, Fil. t.* 20. b.—P. hexagonopterum, *Mx. Am.* 2. *p.* 271. *Ph.*—P. cruciatum, *Kaulf.* (*fide Presl.*)

Hab. α. Canada. *Lady Dalhousie. Mrs Perceval.*—β. Canada. *Mrs Perceval;* and thence to the Saskatchawan. *Dr Richardson. Drummond.* N. W. Am. Columbia River. *Douglas.* Portage, and near the sources of the Columbia river. *Drummond.*—γ. Canada. *Goldie.*—Of the two first varieties that I have here noticed, I have not the slightest doubt of their belonging to one and the same species; and with regard to the third (var. γ.), among the larger specimens of β. which I have seen, are some which appear to constitute quite a connecting link between α. and γ. This latter seems to be rare in British America; more frequent in the United States, where it is sometimes called *P. connectile* and sometimes *P. hexagonopterum.* The larger the plant, and the more remote the pinnæ, the greater the disposition in the fronds to become compound, and the more the veinlets become branched or forked:—then too the decurrent triangular lobe of the rachis is more developed and more remarkable.

5. *P. Dryopteris, L.—E. Bot. t.* 616. *Rich. App. p.* 39.—Nephrodium, *Mx.*—P. calcareum, Ph.—β. *rigidius.* P. calcareum, *Sm. E. Bot. t.* 1525. *Bong. Veg. Sitcha, p.* 57.

Hab. Canada. *Mrs Perceval,* to the Rocky Mountains and to Bear Lake. *Dr Richardson. Drummond.*—β. High Mountains of the Rapids of the Columbia. *Douglas.*

2. GYMNOGRAMMA. *Desv.*

1. *G. triangularis, Kaulf.—Hook. et Grev. Ic. Fil. t.* 315. *Hook. et Arn. Bot. of Beech. Voy. p.* 161 *et* 405.

Hab. Columbia. *Douglas.*—A single specimen only of this is in the Herbarium of Mr Douglas, mixed up with other Ferns of the Columbia. It was probably found to the south of that river towards California, a country which the species is known to inhabit.

3. WOODSIA. *Br.*

1. *W. Ilvensis, Br. in Linn. Trans. v.* 11. *p.* 173.—*E. Bot. t.* 2616. *Sw.—Ph. Am.* 2. *p.* 600. *Rich. App. p.* 39.—Polypodium, *Sw.*—Nephrodium rufidulum, *Ph.* (*certe.*)

Hab. Canada to Hudson's Bay, Bear Lake and the Rocky Mountains. *Pursh. Goldie. Lady Dalhousie. Dr Richardson. Douglas. Drummond.*

2. *W. hyperborea, Br. l. c. p.* 173, *cum Ic.—Ph. Am.* 2. *p.* 600.—Polypodium, *Sw. Presl, E. Bot. t.* 2023.

Hab. Canada to the Saskatchawan. *Pursh. Dr Richardson. Drummond.*

3. *W. glabella* (*Br.*); frondibus (lanceolato-linearibus) pinnatis glaberrimis, pinnis triangularibus pinnatifidis imis dilatatis laciniis cuneiformibus, rachi nuda stipite squamato. (Tab. CCXXXVII.) *Br. in Rich. App. p.* 39.

Hab. Great Bear Lake. *Dr Richardson.*—A very distinct species, always retaining the character above given by Mr Brown.

Tab. CCXXXVII. *Fig.* 1. Pinna; *f.* 2. Sorus; *f.* 3, 4. Capsules; *f.* 5. Seeds:—*magnified.*

4. PHYSEMATIUM. *Kaulf.*

1. *P. obtusum.*—Aspidium obtusum, *Willd.—Schkuhr, Fil. t.* 21. *and t.* 43. *b. p.—Ph.*

Am. 2. *p.* 662.—Polypodium, *Sw.*—Woodsia Perriniana, *Hook. et Grev. Ic. Fil.* 1. *t.* 68.—Alsophila Perriniana, *Spreng.*

Hab. West side of the Rocky Mountains, near the sources of the Columbia, *Drummond:* and elsewhere on the higher parts of the Columbia. *Douglas.*—This is the *Alsophila Perriniana* of Sprengel, and it is perhaps by some mistake that it is said to be a native of St Thomas. It seems however to have a wide range in N. America, yet to be found nowhere plentifully.—The Genus is distinguished from *Woodsia*, to which it is very nearly allied, by the presence of an hemispherical indusium which covers the whole sorus and then splits from the top into several lacinated segments.

5. CISTOPTERIS. *Bernh.*

1. *C. fragilis, Bernh.*—Athyrium, *Rich. App. p.* 39.—Cyathea, *E. Bot. t.* 1587.—*Ph.* —β. laciniis latioribus minus divisis. C. tenuis, *Schott.*—Aspidium tenue, *Willd.*—*Ph.* —Nephrodium, *Mx.*

Hab. Canada, *Mrs Perceval, Goldie;* to Slave Lake and to the Rocky Mountains. *Dr Richardson. Drummond.*—This species varies a good deal in North America; but not more so than it does in Europe. The *C. tenuis* is only a form with broader and less deeply divided laciniæ.

2. *C. montana, Link,*—Aspidium, *Sw.*—*Schkuhr, Fil. t.* 63.

Hab. Shady alpine woods by streams in the Rocky Mountains. *Drummond.*—This is quite new to the Flora of N. America. The specimens entirely accord with Europæan ones. The species cannot indeed readily be mistaken, well marked as it is by its small exactly triangular and much divided frond, with the fructification precisely resembling that of *C. fragilis.*—May not the *Aspidium atomarium*, Muhl. and Willdenow, be a variety of this plant?

3. *C. bulbifera, Bernh.*—Aspidium, *Sw.*—*Schkh. Crypt. t.* 57.—*Ph.*—Nephrodium, *Mx.*

Hab. Canada. *Mrs Sheppard. Goldie.*

6. ASPIDIUM. *Sw.*

1. *A.* (Lastrea) *Thelypteris, Sw.*—*E. Bot. t.* 1018. *Schkh. Fil. t.* 52.—A. thelypteroides, *Sw.*—Nephrodium, *Mx.*—Aspidium Noveboracense, *Sw.*—*Ph.*—*Schkh. Fil. t.* 46.

Hab. Canada. *Michaux. Mrs Perceval. Mrs Sheppard.*—The *A. Noveboracense* is quite identical with *A. Thelypteris.*

2. *A.* (Lastrea) *Goldianum, Hook. in Ed. Phil. Journ.* 6. *p.* 333. *Hook. et Grev. Ic. Fil. t.* 102.—A. Filix Mas, *Ph. Am.* 2. *p.* 662.

Hab. Canada. *Dr Holmes.* About Montreal. *Goldie. Mrs Perceval. Mrs Sheppard.*—This is a most distinct species, and though apparently rare in British N. America, seems to be common in the United States, whence it is not unfrequently sent as *A. Filix Mas:* and there is every reason to believe that this is what Pursh had in view for that plant.

3. *A.* (Lastrea) *marginale, Willd.*—*Ph.*—*Schkuhr, Fil. t.* 45. b.

Hab. Canada. *Mrs Sheppard. Mrs Perceval,* to the Saskatchawan. *Dr Richardson. Drummond.*

4. *A.* (Lastrea) *cristatum, Sw.—E. Bot. t.* 2125 (*not t.* 1949.) *Ph.*

Hab. Saskatchawan. *Dr Richardson. Drummond.*—The specimens are barren, but the form of the plant is so remarkable, as to leave not the shadow of a doubt as to its being the real *A. cristatum,* which, moreover, is frequent in the United States.

5. *A.* (Lastrea) *fragrans, Sw.—Hook. in Parry's 2d Voy. App. p.* 410.—Nephrodium, *Rich. App. p.* 39. *Hook. et Grev. Ic. Fil. t.* 70.

Hab. Saskatchawan to the Arctic Sea-coast and Islands. *Dr Richardson. Sir E. Parry. Drummond.*—Some of the specimens from about Bear Lake are nearly a foot in length.

6. *A.* (Lastrea) *spinulosum, Willd.—E. Bot. t.* 1460. *Bong. Veget. Sitcha, p.* 57. *Ph. Am.* 2. *p.* 663.—A. intermedium? *Willd.—Ph.*—β. A. dilatatum, *Willd.—E. Bot. t.* 1461. *Bong. Veg. Sitcha, p.* 57. *Ph. Am.* 2. *p.* 663.—A. dumetorum, *Sw.*—Nephrodium expansum, *Presl, Reliq. Haenk.* 1. *p.* 38.

Hab. Newfoundland. *Miss Brenton.* Canada, (*Mrs Perceval, Lady Dalhousie,*) to the Rocky Mountains. *Dr Richardson. Drummond.* Columbia River. *Dr Scouler. Douglas.*—In America this plant, although at all times easily recognised, is as variable as in England; and it is equally impossible, as with us, to limit the marks of the varieties.

7. *A.* (Polystichum) *Lonchitis, Sw.—E. Bot. t.* 797.

Hab. Rocky Mountains. *Drummond.*

8. *A.* (Polystichum) *munitum* (*Kaulf.*); frondibus pinnatis, pinnis lineari-lanceolatis spinoso-acuminatis subfalcatis basi sursum auriculatis mucronato-serratis, serraturis subappressis rarissime bidentatis, stipite rachique subtus et basin versus paleaceis.—*Kaulf. Enum. p.* 230. *Hook. et Arn. Bot. of Beech. Voy. p.* 162, *and* 405.—Nephrodium Plumula, *Presl, Reliq. Haenk.* 1. *p.* 33.

Hab. N. W. America. *Menzies. Douglas. Dr Gairdner.* Nutka. *Mertens.*—The most common of all Ferns on the N. W. Coast, between the parallels of 40° and 49° n. lat., in the moist grounds of the dark shady Pine Forests. The roots are roasted on the embers, and constitute an article of food. The fronds are used as garlands by the Indians. *Douglas.*

9. *A.* (Polystichum) *acrostichoides, Sw.—Ph.—Schkh. Fil. t.* 30.—Nephrodium, *Mx.*

Hab. Canada. *Mrs Perceval. Mrs Sheppard.*

10. *A.* (Polystichum) *aculeatum, Sw.—E. Bot. t.* 1562. (*ic. mal.*) *Hook. Br. Fl. ed.* 4. *p.* 384.—A. vestitum, *Sw.—Schkuhr, Fil. t.* 43. *Bong. Veg. Sitcha, p.* 57. (et in *Herb. nostr.*) Nephrodium setigerum, *Presl, Reliq. Haenk.* 1. *p.* 37.

Hab. Portage, and sources of the Columbia, west side of the Rocky Mountains. *Drummond.* Nutka. *Haenke.* Sitcha. *Mertens.*—This is a rare plant in N. America; and the form is precisely that which I have characterized as the *Asp. aculeatum* in "British Flora," ed. 4. v. 1. p. 384, a state exactly intermediate between *A. lobatum* on the one hand, and *A. angulare,* Sm., on the other. Pursh records it as an inhabitant of the Green Mountains, Vermont; Mertens discovered it at Sitcha: and my correspondent, Dr W. F. Macrae of Montreal, Canada, has lately communicated specimens to me which he had the good fortune to

detect in the Essex Mountains, State of New York. Dr Bongard's *A. vestitum,* which there is every reason to believe is the true *vestitum* of Sw., has the most perfect conformity with this and with Mr Drummond's specimens.

7. ONOCLEA. *L.*

1. *O. sensibilis, L.—Mx. Am.* 2. *p.* 272. *Ph.—Schkh. Fil. t.* 102.—β. O. obtusilobata, *Schkh. Fil. t.* 103.—*Ph.*

Hab. Lake Huron, *Dr Todd,* to the Saskatchawan. *Drummond.*

8. STRUTHIOPTERIS. *Willd.*

1. *S. Germanica, Willd.—Beck, Fl. p.* 456.—Onoclea Struthiopteris, *Schkh. Fil. t.* 105, *and* O. nodulosa, *ejusd. t.* 104.—Osmunda Struthiopteris, *L.*—Struthiopteris Pennsylvanica, *Willd.—Ph. Am. p.* 666.

Hab. Canada to the Saskatchawan. *Dr Richardson. Drummond. Douglas.*—After a very careful comparison of the N. American *Struthiopteris* with the European, I am compelled to consider them, as Dr Beck has already done, one and the same species.

9. ATHYRIUM. *Presl.*

1. *A. Filix fœmina, Roth.*—Asplenium, *Bernh.*—Nephrodium, *Mx.*—Aspidium, *Sw.—E. Bot. t.* 1459. *Schkuhr, Fil. t.* 58.—Asplenium Athyrium, *Schkuhr, Fil. t.* 78.—Aspidium asplenioides, *Sw.—Ph.*—Nephrodium, *Mx.*—β. fronde angustiore. Aspidium angustum, *Willd.—Ph.*—Athyrium angustum, *Presl, Reliq. Haenk.* 1. *p.* 39.—γ. fronde angusta oblongo-lanceolata rigidiore, pinnis pinnulisque remotioribus.

Hab. α. and β. Throughout Canada, *Goldie, Mrs Perceval, Lady Dalhousie;* to the Saskatchawan and to the alpine woods of the Rocky Mountains. *Dr Richardson. Drummond.*—β. Nutka. *Mertens.*—γ. Common on the N. W. Coast, by the shady banks of streams.—This species in America, as in Europe, varies in the breadth of its fronds: the Columbian var. is the most striking of these forms, but it is evidently not a distinct species.

10. ASPLENIUM. *L.*

1. *A.* (Camptosorus) *rhizophyllum, L.—Mx.—Ph. Am.* 2. *p.* 666.

Hab. Canada. *Pursh, Goldie,* to the Saskatchawan. *Drummond.*—The reticulated venation of this plant, forming oblong hexagonal areolæ, is very remarkable, and quite different from that of any other *Asplenium,* but very similar to some of the exotic *Scolopendria,* with which the plant agrees in its undivided fronds. Presl has constituted of it the genus *Camptosorus.*

2. *A. Trichomanes, L.—E. Bot. t.* 576. *Mx.*—A. melanocaulon, *Willd.—Ph.*

Hab. Canada, *Pursh, Mrs Sheppard, Mrs Perceval;* to the Saskatchawan. *Dr Richardson. Drummond.* Damp rocks of the Columbia and Puget's Sound. *Douglas.*

3. *A. viride;* fronde pinnata pinnis rotundato-ovatis obtuse serratis basi cuneatis, rachi concolore. *Huds.—E. Bot. t.* 392.

Hab. Moist shady rocks on the Rocky Mountains. *Drummond.*—This is quite new to America.

4. *A. ebeneum, Willd.—Ph. Am. 2. p.* 666.—A. polypodioides, *Sw.*—A. trichomanoides, *Mx.*

Hab. Canada. *Mrs Sheppard.*

5. *A. marinum;* fronde pinnata, pinnis oblongis obtusis inciso-serratis basi superiore rotundata et subauriculata inferiore truncata.—*L.—E. Bot. t.* 150.

Hab. New Brunswick. *E. N. Kendal, Esq.*—This species again is now, for the first time, ascertained to be a native of N. America. It may perhaps be frequently found among maritime rocks. I have specimens I can scarcely distinguish from it, from the West Indies.]

11. BLECHNUM. *L.*

1. *B. boreale, Sw.—E. Bot. t.* 1159. *Ph. Am. 2. p.* 669. *Bong. Veg. Sitcha, p.* 58.—Lomaria spicant, *Desv.—Presl.*—Lomaria crenata, *Presl, Reliq. Haenk. 1. p.* 51.

Hab. N. W. Coast. *M. Lewis.* (*Ph.*) Observatory Inlet. *Dr Scouler.* Nutka. *Mertens.*—I am aware that an opinion prevails that this plant should be referred to *Lomaria* (Stegania, *Br.*): but the indusium is certainly *not* marginal. The fructification may be considered that of *Blechnum,* the habit that of *Lomaria.*

2. *B. doodioides;* fronde elongata lanceolata pinnata, pinnis subopppositis basi lata ex-auriculata lato-lineari-oblongis sensim acuminatis paululum falcatis versus apicem obscure serratis infimis parvis rotundatis superioribus multo angustioribus soriferis, soris continuis vel sæpissime interruptis.

Hab. Interior of N. W. America. *Douglas.*—Of this plant two specimens were sent to me by the late Dr Gairdner, (then resident at Fort Vancouver on the Columbia,) which were gathered in the interior by Mr Douglas: but whether in the Hudson's Bay territories, or, as is possible, in N. California, I am uncertain. I am disposed to believe in the former country, because there is nothing of the kind in Mr Douglas' Californian Herbarium. It is a very distinct plant, almost combining the character of *Woodwardia,* or *Doodia,* with those of *Blechnum.* The veins are obliquely parallel with the costa, forked, and not anastomosing in the sterile pinnæ: when the fructification appears, the lower branch of a vein anastomoses with the vein immediately above it, and in the interior of that vein (next the costa) the sorus is formed. In the lower of the fertile pinnæ, the indusium frequently stands unconnected and more or less distant, as in *Woodwardia,* but generally forming a continued line, from the union of the adjoining indusia. The stipes is dark purple, the upper (fertile) pinnæ are so narrow that the sori occupy nearly the whole surface, as in *B. boreale.*

12. PTERIS. *L.*

1. *P. aquilina, L.—E. Bot. t.* 1679. *Ph. Am. 2. p.* 688. *Agardh, Recens. Sp. Gen. Pter. p.* 49.—P. caudata, *Ph.*—β. *lanuginosa;* fronde subtus dense tomentosa. *Bong. Veget. Sitcha, p.* 58.—P. lanuginosa, *Hook. et Arn. in Bot. of Beech. Voy. p.* 405.—*non Bory? et Agardh?*

Hab. New Brunswick. *Mr Kendal.* Newfoundland. *Miss Brenton.* Canada. *Pursh, Mrs Sheppard, Mrs Perceval,* to the Saskatchawan. *Drummond.*—β. Very common from Cape Mendocino to Puget Sound, and in the open woods and undulating grounds in the interior of Columbia. *Douglas.*

2. *P.* (Allosorus) *atro-purpurea, L.—Mx.—Schkuhr, Fil. t.* 100. *Ph.*—P. gracilis, *var.* nana? *Rich. App. p.* 39.

Hab. Canada to Bear Lake and the Rocky Mountains. *Dr Richardson. Drummond. Douglas.*

3. *P.* (Allosorus) *gracilis;* tenuis, fronde lanceolata, sterili pinnata pinnis pinnatifidis laciniis paucis late ovatis obtusissimis tenuissimis, fertili bipinnata pinnis lineari-oblongis crenatis, rachi concolore, stipite atro-fusco nitidissimo.—*Mx. Am.* 2. *p.* 262. *Ph. Am.* 2. *p.* 668.—Cheilanthes, *Kaulf.—Spr.*

Hab. Canada, *Michaux, Goldie;* to the Saskatchawan. *Drummond. Dr Richardson.*—This is a very distinct species, though sometimes confounded with the preceding.

13. CRYPTOGRAMMA. *Br.*

1. *C. acrostichoides* (*Br.*); frondibus bipinnatifidis, sterilium pinnulis ovalibus crenatis, fertilium demum explanatis, soris linearibus discum totum occupantibus. *Br. in Rich. App. p.* 39. *et p.* 54. *Hook. et Grev. Ic. Fil. t.* 29. *Bong. Veg. Sitcha, p.* 58.—Allosorus, *Presl.*

Hab. Nutka Sound. *Menzies.* Stony places in the Rocky Mountains, but rare : to the sources of the Columbia, *Drummond,* and thence to the Grand Rapids of the Columbia, and the mountains of Macgillivray's River. *Douglas.* Cumberland House Fort to Bear Lake. *Dr Richardson.*

2. *C. crispa, Br.—Hook. Brit. Fl. ed.* 4. *p.* 389.—Allosorus crispus, *Bernh.—Kaulf. Enum. p.* 143.

Hab. Unalaschka. *Chamisso.*—May this not be the previous species ?

14. ADIANTUM. *L.*

1. *A. pedatum, L.—Mx. Am.* 2. *p.* 263. *Schk. Fil. t.* 115. *Ph.*

Hab. Canada. *Michaux. Pursh. Mrs Sheppard.* Lake Huron. *Dr Todd.* Columbia River, N. W. Coast. *Dr Gairdner. Dr Scouler. Douglas.*

15. CHEILANTHES. *Sw.*

1. *C. vestita, Sw.—Ph. Am.* 2. *p.* 670.—*Schkuhr, Fil. t.* 124.—Nephrodium lanosum, *Mich. Am.* 2. *p.* 270.

Hab. Alpine woods in the Rocky Mountains. *Drummond.* New Caledonia, N. W. Am. *Douglas.*

16. DICKSONIA. *L'Hérit.*

1. *D. pilosiuscula, Willd. Enum. p.* 484. *Ph. Am. p.* 671.—D. pubescens, *Schkuhr, Fil. t.* 131.—Aspidium punctilobum, *Willd.—Ph. Am.* 2. *p.* 664.—Nephrodium punctilobum, *Mx.*

Hab. Canada. *Dr Holmes.* New Brunswick. *Mr Kendal.*

Trib. II. Osmundaceæ.

17. OSMUNDA. *L.*

1. *O. spectabilis, Willd.—Ph. Am. 2. p.* 658.—O. regalis, β. *L.*—O. regalis, *Mx.*

Hab. Canada. *Pursh. Mrs Perceval,* to the Saskatchawan. *Dr Richardson. Drummond.*—The nearly equal bases of the leaflets distinguish this species from our *O. regalis;* and it is found in South as well as in North America, retaining the same characters.

2. *O. cinnamomea, L.—Mx.—Ph. Am. 2. p.* 657. *Schkuhr, Fil. p.* 146.—O. Claytoniana? *Willd.—Ph.*—β. frondibus majoribus, rachi magis alata. O. alata, *Hook. in Ed. Phil. Journ. v. 6. p.* 332.

Hab. Canada. *Goldie. Mrs Sheppard. Mrs Perceval.* Newfoundland. *Miss Brenton.*—β. Montreal. *Goldie.*

3. *O. interrupta, Mx. Am. 2. p.* 273.—*Ph.—Schkuhr, Fil. t.* 144.

Hab. Canada. *Michaux. Mrs Perceval.* Newfoundland. *Miss Brenton. Dr Morrison.*

18. SCHIZÆA. *Sw.*

1. *S. pusilla, Ph.—Hook. et Grev. Ic. Fil. t.* 47.—S. filifolia, *De la Pyl.*—S. australis, *Gaud. Fl. des Isles Malouines.*

Hab. Newfoundland. *De la Pylaie.*—For a long time this very rare and beautiful little plant has been believed to be peculiar to one locality, Pine Barrens, near Quaker's Bridge, New Jersey, in the United States. But in 1825 it was stated at Paris, that the same Fern (as ascertained by a comparison instituted by M. Victor Jacquemont) had been discovered in Newfoundland, by M. de la Pylaie, and by M. Gaudichaud in the Falkland Islands.

Trib. III. Ophioglosseæ. *Br.*

19. BOTRYCHIUM. *Sw.*

1. *B. Lunaria, Sw.—E. Bot. t.* 318.

Hab. About Carlton House Fort on the Saskatchawan, *Dr Richardson,* to the Rocky Mountains; in the wet prairies. *Drummond.*—I believe this species had not been found before in the New World.

2. *B. simplex, Hitch. in Sill. Journ.* 6. *p.* 103. *Hook. et Grev. Ic. Fil. t.* 82.

Hab. Canada. *Pursh.* (*in Herb. nostr.*) *Mr Cleghorn.* Between Cumberland House Fort and Hudson's Bay. *Drummond.*

3. *B. obliquum, Muhl.—Ph. Am. p.* 655.

Hab. About Hudson's Bay, (York Factory,) and on the "Height of Land" in the Rocky Mountains. *Drummond.* Newfoundland. *Dr Morrison.*

4. *B. silaifolium* (*Presl*); fronde radicali tripinnata, pinnis primariis secundariisque petiolatis, pinnulis subsessilibus ovatis crenato-dentatis inferioribus sublobatis, scapo nudo, panicula coarctata. *Presl, Reliq. Haenk.* 1. *p.* 76.

Hab. Nutka. *Mertens.*—This species is quite unknown to me.

5. *B. Virginicum, Sw.—Ph. Am.* 2. *p.* 656. *Schkuhr, Fil. t.* 156.—Botrypus, *Mx.*—Botrychium gracile, *Ph.*

Hab. Canada, *Michaux, Goldie;* from Lake Huron, *Dr Todd*, to the Saskatchawan. *Dr Richardson. Drummond.* Newfoundland. *Miss Brenton.* Columbia River, N. W. America. *Dr Scouler.*

Ord. II. LYCOPODINEÆ. *Sw.*

1. LYCOPODIUM. *L.*

A. Exstipulatæ.

* Axillares; *capsulis axillaribus.*

1. *L. Selago, L.—E. Bot. t.* 233. *Hook. in Parry's 2d Voy. App. p.* 261. *Beck, Fl. p.* 462.—β. foliis angustioribus sæpe squarrosis. L. recurvum, *Willd.*

Hab. From Hudson's Bay (York Factory) to the Rocky Mountains, and to the extreme Arctic shores and islands. *Dr Richardson. Drummond. Sir E. Parry*, &c. Labrador. *Dr Morrison. Miss Brenton.* West side of the Rocky Mountains near the sources of the Columbia. *Douglas.*—β. N. W. America. From Observatory Inlet, Millbank Sound, to Stikine. *Dr Scouler. Tolmie.*

2. *L. lucidulum, Mich. Am.* 2. *p.* 284.—*Ph.*—*Schkh. Fil. t.* 159.—L. reflexum. *Sw.*

Hab. Canada to the Saskatchawan. *Drummond.*

** Spicatæ; *capsulis spicatis.*

† *Spicis sessilibus.*

3. *L. dendroideum, Mx. Am.* 2. *p.* 282. *Ph.—Hook. Ex. Fil. t.* 7.

Hab. Canada. *Pursh, Mrs Perceval, Mrs Sheppard;* to the Saskatchawan, and to Hudson's Bay. *Drummond.* New Brunswick. *Mr Kendal.* Newfoundland. *Miss Brenton. Dr Morrison.* N. W. Coast of America. *Menzies.*

4. *L. annotinum, L.—E. Bot. t.* 1727. *Ph. Am.* 2. *p.* 653.—*an* L. bryophyllum, *Haenke.*

Hab. Canada. *Pursh, Mrs Perceval, Lady Dalhousie;* to Slave Lake. *Dr Richardson. Drummond.* Newfoundland. *Miss Brenton. Dr Morrison.* N. W. Am. Observatory Inlet, *Dr Scouler;* to Millbank Sound. *Tolmie.*

5. *L. sabinæfolium* (*Willd.*); caule elongato repente, ramis erectis brevibus dense

fastigiatim dichotome divisis, foliis undique imbricatis nunc quadrifariis æqualibus erectis tereti-subulatis aristato-acuminatis, spicis sessilibus cylindraceis solitariis, squamis cordato-acuminatis patentibus integerrimis. (Tab. CCXXXVIII.) *Hook. et Grev. Lycop. in Bot. Miscell.* 2. *p.* 371.—L. alpinum, *Mx.*

Hab. Canada. *Michaux.* Banks of the Saskatchawan. *Dr Richardson. Drummond.* Newfoundland. *Mr Cormack.*—With the habit of *L. alpinum*, the species has totally different leaves and a different insertion of those leaves. Here they are all equal, and imbricated on all sides, or occasionally in 4 rows.

Tab. CCXXXVIII.—*Fig.* 1. Portion of a branch; *f.* 2. Spike of fructification; *f.* 3. Scale from the spike with a capsule, posterior view; *f.* 4. Side view of a scale with the capsule:—*magnified.*

6. *L. selaginoides*, L.—*E. Bot. t.* 1148. *Mx.*—*Ph. Am.* 2. *p.* 654.

Hab. Canada. *Michaux.* Saskatchawan. *Drummond.*—The few specimens, gathered by Mr Drummond, are all I have seen of American origin. Dr Greville and myself were unquestionably wrong in referring the *L. bryophyllum* of Haenke to this species; it may probably belong to a dwarf state of *L. annotinum.*

7. *L. inundatum*, L.—*E. Bot. t.* 239. *Ph. Am.* 2. *p.* 653.

Hab. Canada, *Pursh.*

8. *L. rupestre*, L.—*Schkuhr, Fil. t.* 165. *Ph. Am.* 2. *p.* 654.—β. ramis longissimis, foliis laxioribus. L. struthioloides, *Presl, Reliq. Hænk.* 1. *p.* 82.

Hab. Canada to the Saskatchawan. *Dr Richardson. Drummond.*—β. N. W. Am. *Douglas.* Observatory Inlet. *Dr Scouler.*

†† *Spicis pedunculatis.*

9. *L. clavatum*, L.—*E. Bot. t.* 224. *Ph. Am.* 2. *p.* 652.—β. *monostachyon;* spica solitaria, pedunculis brevibus. *Hook. et Grev. Lycop. in Bot. Misc. v.* 2. *p.* 875.—γ. *tristachyon*, spicis subternis, ramis fastigiatis, foliis subintegerrimis. L. clavatum, *Mx.*—L. aristatum, γ. tristachyon, *Nutt.*—*Hook. et Grev. l. c. p.* 876. L. tristachyon, *Nutt.* (*non Ph.*)—δ. foliis omnino integerrimis muticis.

Hab. Newfoundland. *Miss Brenton. Dr Morrison.* Throughout Canada to the Saskatchawan. *Dr Richardson. Drummond.* Interior of the Columbia. *Douglas.*—β. Rocky Mountains, north of the Smoking River. *Drummond.*—δ. N. W. America, from Observatory Inlet, *Dr Scouler*, to Stikine; and on Mount Rainier. *Tolmie.*—A very variable plant, and very extensively distributed over many parts of the world.

B. Stipulatæ.

* *Ramis compressis cum foliis distichis decurrentibus coadunatis, stipulis uniseriatis.*

10. *L. complanatum*, L.—*Schkh. Fil. t.* 168. *Ph. Am.* 2. *p.* 652.—L. tristachyon, *Ph.* (*non Nutt.*)

Hab. Canada. *Pursh. Goldie. Mrs Perceval.* From Lake Huron, *Dr Todd*, to the Saskatchawan. *Dr Richardson. Drummond.* Newfoundland. *Miss Brenton. Dr Morrison.* N. W. Coast of America. *Menzies.*

11. *L. alpinum, L.—E. Bot. t.* 234.

Hab. Elevated parts of the Rocky Mountains. *Drummond.*

** *Foliis distichis, stipulis biseriatis semper superioribus.*

12. *L. Douglasii;* repens dichotome ramosum, foliis distichis ovalibus uninerviis nitidis integerrimis, stipulis conformibus paululum falcatis apiculatis, spicis terminalibus cylindraceis, squamis cordato-acuminatis inferne ciliatis. *Hook. et Grev. in Bot. Misc. v.* 12. *p.* 396.—L. ovalifolium. *Hook. et Grev. Ic. Fil. t.* 177. (*non Desv.*)

Hab. Near springs in woody places, N. W. America. *Douglas.*—An extremely distinct and well-marked species, which I have never received from any collector except *Mr Douglas.*

Ord. III. MARSILEACEÆ. *Br.*

1. ISOETES. *L.*

1. *I. lacustris, L.—E. Bot.—Ph. Am.* 2. *p.* 671.

Hab. Saskatchawan. *Drummond.*

2. MARSILEA. *L.*

1. *M. vestita;* foliolis cuneatis subobliquis petiolisque appresso-hirsutis, involucris ovalibus hirsutis axillaribus pedunculo subæque longis. *Hook. et Grev. Ic. Fil. t.* 159.

Hab. Common on Menzies' Island and sandy banks of the Columbia, near the Grand Rapids. *Douglas. Dr Scouler.*—The same species is found at Talisco, Mexico, by the Naturalists of Capt. Beechey's Voyage.

Ord. IV. SALVINIACEÆ. *Bartl.*

1. SALVINIA. *L.*

1. *S. natans, L.—Schkuhr, Fil. t.* 173. *Ph. Am.* 2. *p.* 672.

Hab. Floating on stagnant waters, Canada, *Pursh.*

2. AZOLLA. *Lam.*

1. *A. Caroliniana, Willd. Sp. Pl. p.* 451. *Ph. Am.* 2. *p.* 672.—A. microphylla, *Kaulf.—Hook. et Arn. Bot. of Beech. Voy. p.* 162.

Hab. Canada, on the still waters of Lake Ontario. *Pursh.*—I have not seen British North American specimens of this singular aquatic. But I do not think the Californian *A. microphylla* of Kaulfuss differs from this, nor this probably from the original *A. Magellanica.*

Ord. V. EQUISETACEÆ. *Rich.*

1. EQUISETUM. *L.*

1. *E. fluviatile, L.—E. Bot. t.* 2022. *Hook. et Arn. in Bot. of Beech. Voy. p.* 404.

Hab. N. W. America. Columbia River. *Dr Scouler;* who observes that the young shoots are eaten in the Spring as asparagus.—This species extends south into California; and Dr Beck gives it as an inhabitant of Buffalo, N. York, and of the shores of Lake Ontario.

2. *E. sylvaticum, L.—E. Bot. t.* 1874. *Ph. Am.* 2. *p.* 651.

Hab. Canada. *Cleghorn, Lady Dalhousie;* to Fort Franklin on the Mackenzie River. *Dr Richardson. Drummond.* Newfoundland. *Miss Brenton. Mr Cormack.* New Brunswick. *Mr Kendal.*

3. *E. umbrosum;* caulibus sterilibus pluristriatis superne scabris verticillatim ramosis, ramis strictiusculis summis subcorymbosis, fertilibus simplicibus demum elongatis verticillatim ramosis ut in sterilibus.—*Meyer in Willd. Sp. Pl.* 5. *p.* 3.

Hab. Saskatchawan to the Rocky Mountains. *Drummond.* Canada. *Mrs Perceval.*—The young fertile specimens of this plant from the Rocky Mountains, are marked "*E. Drummondii*, Hook." (Brit. Fl. ed. 4. p. 393, et E. Bot. Suppl. t. 2777): and indeed at first sight I could perceive no difference: but on examining these specimens carefully, I found on several of them incipient branches, budding out from the base of the sheaths. There cannot be a doubt, therefore, but these belong to the same species as the specimens from Carlton House Fort, which Dr Richardson has correctly named "*E. umbrosum*," Meyer and Willd., and which exhibit fertile and sterile branches from the same creeping root, both throwing out the horizontal branches. There are likewise fully developed sterile stems in the collection. Now these last, and the simple (unbranched) fertile plants, are so like our British *E. Drummondii*, that if we only suppose our fertile plants of the latter not sufficiently advanced to throw out the branches (and there are comparatively few specimens which have yet come under my observation), we shall see that the two so-called species are identical, and the name of *Drummondii* must give place to *umbrosum*. Willdenow notices its affinity to *E. sylvaticum*:—that is, in the peculiarity of the fertile stems throwing off the spike and then branching and becoming similar to the sterile ones: for the two species are totally distinct.

4. *E. arvense, L.—E. Bot. t.* 2020. *Ph. Am.* 2. *p.* 651.

Hab. Lake Huron, *Dr Todd;* to the Rocky Mountains and the Saskatchawan. *Dr Richardson. Drummond.*

5. *E. limosum, L.—E. Bot. t.* 929. *Beck, Fl. p.* 446.—E. uliginosum, *Willd.? Ph. Am.* 2. *p.* 651.—β. *Candelabrum;* ramorum verticillis numerosis superioribus plurimis spicigeris.

Hab. Watery places of the Saskatchawan; and β, growing in water about Winipeg. *Dr Richardson. Drummond.*—The var. β. has a very curious appearance: it bears copious whorls about 2 inches long, 16-20 branches in a whorl, and 7 or 8 of these upper whorls bearing spikes, which are much smaller and much less advanced than the terminal one of the stem.

6. *E. palustre, L.—E. Bot. t.* 2021.

Hab. Canada; from Lake Huron, *Dr Todd, Mr Cleghorn, Mrs Perceval;* to the shores of the Arctic Sea. *Dr Richardson. Drummond. Sir John Franklin. Capt. Back.*

7. *E. hyemale, L.—E. Bot. t.* 915. *Ph. Am.* 2. *p.* 652. *Hook. et Arn. Bot. of Beech. Voy. p.* 404.

Hab. Lake Huron, (*Dr Todd,*) to the Slave Lake: and from Hudson's Bay to the Western Ocean, (Columbia), *Douglas. Dr Scouler.*

8. *E. variegatum, L.—E. Bot. t.* 915.—β. minus, caulibus debilibus flexuosis. E. scirpoides, *Mx. Am.* 2. *p.* 281. *Willd.—Ph. Am.* 2. *p.* 652.

Hab. Frequent in Canada, *Goldie, Mrs Perceval;* and thence to the Saskatchawan, *Dr Richardson, Drummond;* and to the Arctic Islands. *Sir E. Parry.*—β. about the Saskatchawan.—The two forms of this plant above alluded to are also found in Europe.

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ADENOCAULON, *Hook.*	1	308
bicolor, *Hook.*	1	308
ADIANTUM, *L.*	2	264
pedatum, *L.*	2	264
ADLUMIA, *Rafin.*	1	36
cirrhosa, *Rafin.*	1	36
ADONIS, *Dill.*	1	9
autumnalis, *L.*	1	9
ADOXA, *L.*	1	272
moschatellina, *L.*	1	273
Ageratum altissimum, Willd.	1	305
AGRIMONIA, *Tourn.*	1	196
Eupatoria, *L.*	1	196
parviflora, Ait.	1	197
striata, Mx.	1	197
AGROSTEMMA, *L.*	1	92
Githago, *L.*	1	92
AGROSTIS, *L.*	2	239
alba, *L.*	2	239
algida, Soland.	2	237
canina, *L.*	2	240
Cinna, Lam.	2	237
Drummondii, Torr.	2	239
exarata, *Trin.*	2	239
laxiflora, *Rich.*	2	240
Michauxii, Trin.	2	240
polymorpha, Huds.	2	239
racemosa, Mx.	2	237
rubra, *L.*	2	240
setosa, Muhl.	2	237
tenacissima, Jacq.	2	239
vulgaris, *L.*	2	239
AIRA, L.	2	242
alpina, Vahl.	2	243
aquatica, L.	2	249
atro-purpurea, *Wahl.*	2	243
cæspitosa, L.	2	242
cristata, *L.*	2	249
Danthonioides, *Trin.*	2	242
elongata, *Hook.* (TAB. CCXXVIII.)	2	243
flexuosa, *L.*	2	242
latifolia, *Hook.* (TAB. CCXXVII.)	2	243
melicoides, Mx.	2	241
melicoides, Mx.	2	249
obtusata, Mx.	2	249
truncata, Mx.	2	249
ALCHEMILLA, *Tourn.*	1	197
vulgaris, *L.*	1	197
ALISMACEÆ, *Br.*	2	167
ALISMA, *L.*	2	168
natans, *L.*	2	168
parviflora, Pursh,	2	168
Plantago, *L.*	2	168
subulata, Willd.	2	168
trivialis, Pursh,	2	168
Allionia hirsuta, Pursh,	2	124
ALLIUM, *L.*	2	183
acuminatum, *Hook.* (TAB. CXCVI.)	2	184
angulosum, Pursh,	2	184
Canadense, *L.*	2	185
cernuum, *Roth*,	2	184
Douglasii, *Hook.* (TAB. CXCVII.)	2	184
reticulatum, *Fras.* (TAB. CXCV.)	2	184
Schænoprasum, *L.*	2	185
Sibiricum, L.	2	185
stellatum, *Fras.* (TAB. CXCIV.)	2	184
stellatum, β. Gawl.	2	184
striatum, *Jacq.*	2	182
Allosorus acrostichoides, Kaulf.	2	264
crispus, Bernh.	2	264
ALNUS, *L.*	2	157
castaneæfolia, Dougl.	2	158
crispa, *Ait.*	2	158
glutinosa, *Gærtn.*	2	157
glutinosa, Rich.	2	157
incana, *Willd.*	2	157
incana glabrifolia, H. et A.	2	157
rubra, *Bong.*	2	158
viridis, *DC.*	2	157
undulata, Willd.	2	157
ALOPECURUS, *Roth*,	2	233
alpinus, *Sm.*	2	234
aristulatus, *Mx.*	2	233
cæspitosus, *Trin.*	2	257
fulvus, Sm.	2	233
geniculatus, *L.*	2	233
geniculatus, β. Torr.	2	233

	VOL.	PAGE
pratensis, *L.*	2	234
subaristatus, Pursh.	2	233
Alsophila Perriniana, Spreng.	2	260
Alsine media, L.	1	94
rubella, Wahl.	1	100
ALYSSUM, *DC.*	1	49
arcticum, Fl. Dan.	1	48
dentatum, *Nutt.*	1	49
hyperboreum, *L.*	1	49
Ludovicianum, Nutt.	1	48
AMARANTHACEÆ, *Juss.*	2	125
AMARANTHUS, L.	2	125
albus, *L.*	2	125
paniculatus, *L.*	2	125
AMBROSIA, *L.*	1	309
acanthicarpa, *Hook.*	1	309
elatior, *L.*	1	309
paniculata, *Mx.*	1	309
trifida, *L.*	2	26
AMELANCHIER, *Medik.*	1	202
Botryapium, *DC.*	1	202
grandiflora, Dougl.	1	202
ovalis, *DC.*	1	202
parviflora, Dougl.	1	202
sanguinea, *Lindl.*	1	203
Amellus spinulosus? Pursh.	2	22
villosus, Pursh.	2	22
AMENTACEÆ, *Juss.*	2	144
Amianthus Nuttallii, Gray,	2	177
AMMI, *L.*	1	261
majus, *L.*	1	261
AMMOPHILA, *Host.*	2	241
arundinacea, *Host.*	2	241
AMORPHA, *L.*	1	139
canescens, *Nutt.*	1	139
fruticosa, *L.*	1	139
microphylla, Pursh.	1	139
nana, *Nutt.*	1	139
nana? Sims,	1	139
AMPELIDEÆ, *H. et K.*	1	114
AMPELOPSIS, *Mx.*	1	114
quinquefolia, *Mx.*	1	114
AMPHICARPÆA, *Ell.*	1	161
monoica, *Ell.*	1	161
AMPLECTRUM, *Nutt.*	2	194
hyemale, *Nutt.*	2	194
Anchusa hirta, Muhl.	2	88
canescens, Muhl.	2	88
Virginica, L.	2	88
ANDROMEDA, *L.*	2	37
cærulea, *L.*	2	39
calyculata, *L.*	2	39
cupressina, *Hook.*	2	38
hypnoides, *L.*	2	37
ligustrina, *Muhl.*	2	39
lycopodioides, *Pall.*	2	38
paniculata, L.	2	39
polifolia, *L.*	2	38
racemosa, *Mx.*	2	39
Stelleriana, *Pall.* (TAB. CXXXI.)	2	37
taxifolia, *Pall.*	2	39
tetragona, *L.*	2	38
ANDROPOGON, *L.*	2	256
avenaceus, *Mx.*	2	257
dissitiflorus, Mx.	2	256
furcatus, *Muhl.*	2	256
nutans, L.?	2	257
purpurascens, Muhl.	2	256
scoparius, *Mx.*	2	256
ANDROSACE, *L.*	2	119
Chamæjasme, *Wulff.*	2	119
elongata, Rich.	2	119
occidentalis? Nutt.	2	119
septentrionalis, *L.*	2	119
ANEMONE, *L.*	1	4
aconitifolia, Mx.	1	8
alpina, *L.*	1	5
apiifolia, Willd.	1	5
arctica, Fisch.	1	6
Baldensis, *L.*	1	5
borealis, Rich.	1	5
cuneifolia, Juss.	1	5
deltoidea, Hook. (TAB. III. A.)	1	6
dichotoma, L.	1	8
Fischeriana, DC.	1	6
fragifera, Jacq.	1	6
Hepatica, L.	1	9
Hepatica, Spreng.	1	8
Hudsoniana, Herb. Banks.	1	7
Hudsoniana, β. Rich.	1	7
lancifolia, Pursh.	1	6
Ludoviciana, Nutt.	1	4
multifida, *Poir.*	1	7
multifida, γ. DC.	1	7

	VOL.	PAGE
narcissiflora, *L.*	1	8
nemorosa, *L.*	1	6
Nuttalliana, DC.	1	4
parviflora, *Mx.*	1	5
patens, *L.*	1	4
Pennsylvanica, *L.* (Tab. III. B.)	1	8
quinquefolia, L.	1	6
Richardsoni, *Hook.* (Tab. IV. A.)	1	6
ranunculoides, var.? Rich.	1	6
sanguinea, Pursh.	1	17
sulphurea, L.	1	5
tenella, Herb. Banks.	1	5
thalictroides, L.	1	4
triloba, α. Pursh.	1	9
triloba β. *Big.*	1	9
umbellata, Willd.	1	8
Virginiana, *L.* (Tab. IV. B.)	1	7
Angelica, *Hoffm.*	1	266
Archangelica, L.	1	267
atro-purpurea, *L.*	1	267
lucida, *L.*	1	267
triquinata, *Mx.*	1	267
triquinata, Big.	1	267
Anonymos aquatica, Walt.	1	219
Antennaria, *Br.*	1	329
alpina, *Br.*	1	329
Carpatica, *Br.*	1	329
dioica, *Br.*	1	329
margaritacea, *Br.*	1	329
plantaginifolia, *Br.*	1	330
racemosa, *Hook.*	1	330
Anthemis, *L.*	1	318
Cotula, *L.*	1	318
Anthericum, *L.*	2	183
serotinum, *L.*	2	183
Anthoxanthum, *L.*	2	235
odoratum, *L.*	2	235
Antiphylla spathulata, Haw.	1	243
Antirrhinum Linaria, L.	2	94
Canadense, L.	2	94
Anychia, *Mx.*	1	226
Canadensis, *Ell.*	1	226
dichotoma, Mx.	1	226
Apargia, *Schreb.*	1	296
autumnalis, *Willd.*	1	296
Apios, *Boerh.*	1	161
tuberosa, *Mœnch.*	1	161

	VOL.	PAGE
Apium bipinnatum, *Walt.*	1	265
ternatum, Pall.	1	267
Apocyneæ, *Br.*	2	51
Apocynum, *Br.*	2	51
androsæmifolium, *L.*	2	51
cannabinum, *L.* (Tab. CXXXIX.)	2	51
cannabinum, Mx.	2	51
hypericifolium, *Ait.* (Tab. CXL.)	2	52
pubescens, Torrey	2	51
Sibiricum, Jacq.	2	52
Aquilegia, *L.*	1	24
brevistyla, *L.*	1	24
Canadensis, *L.*	1	24
vulgaris? Rich.	1	24
Arabis, *L.*	1	41
alpina, *L.*	1	41
ambigua, *DC.*	1	42
Canadensis, L.	1	43
falcata, Mx.	1	43
grandiflora, Willd.	1	47
hirsuta, *Scop.*	1	42
lævigata, *DC.*	1	43
lyrata, L.	1	42
lyrata, L.	1	62
nudicaulis, DC.	1	47
petræa, *Lam.*	1	42
retrofracta, Grah.	1	41
rhomboidea, Pers.	1	44
stricta, *Huds.*	1	42
tuberosa, Pers.	1	44
Araliaceæ, *Juss.*	1	272
Aralia, *Don.*	1	274
erinacea, Hook.	1	273
hispida, *Mx.*	1	274
nudicaulis, *L.*	1	274
racemosa, *L.*	1	274
Arbutus, *L.*	2	36
alpina, *L.*	2	37
laurifolia, *L.*	2	36
Menziesii, *Pursh.*	2	36
procera, Dougl.	2	36
tomentosa, *Pursh*, (Tab. CXXX.)	2	36
Uva-Ursi, *L.*	2	37
Arceuthobium, *Bieb.*	1	277
Oxycedri, *Bieb.* (Tab. XCIX.)	1	278
Archangelica, *Hoffm.*	1	267
Gmelini, *DC.*	1	267

	VOL.	PAGE
officinalis, *Hoffm.*	1	267
triquinata, Hoffm.	1	267
ARCTIUM, *L.*	1	301
Bardana, Sw.	1	301
Lappa, *L.*	1	301
Arctostaphylos tomentosa, Dougl.	2	37
ARENARIA, *L.*	1	97
arctica, *Steven,* (TAB. XXIV. A. B.)	1	100
buxifolia, *Poir.*	1	101
Canadensis, Pers.	1	98
fasciculata, *Pursh.*	1	101
Franklinii, *Dougl.* (TAB. XXXV.)	1	101
hirta, *Wormsk.*	1	99
juniperina, *Sm.*	1	98
laricifolia, *L.*	1	98
lateriflora, *L.* (TAB. XXXVI.)	1	102
macrocarpa, *Pursh.*	1	101
macrophylla, *Hook.* (TAB. XXXVII. A.B.)	1	102
nardifolia, *Ledeb.* (TAB. XXXII.)	1	98
peploides, *L.*	1	102
physodes, DC.	1	103
propinqua, *Rich.*	1	97
Pumilio, *Br.*	1	100
Purshiana, *DC.*	1	102
quadrivalvis, Br.	1	100
Rossii, *Br.*	1	100
rubella, *Hook.*	1	100
rubra, *L.*	1	98
stricta, *Mx.* (TAB. XXXIII.)	1	99
thymifolia, Pursh.	1	102
verna, *L.*	1	99
ARETHUSA, *Sw.*	2	201
bulbosa, *L.*	2	201
ophioglossoides, L.	2	201
parviflora, Mx.	2	202
pendula, Willd.	2	202
trianthophora, Sw.	2	202
ARISTOLOCHIEÆ, *Juss.*	2	139
ARNICA, *L.*	1	330
alpina, Less.	1	330
angustifolia, Vahl.	1	330
Chamissonis, Less.?	1	330
cordifolia, *Hook.*	1	331
fulgens, Pursh.	1	331
? maritima, *L.*	1	331
Menziesii, *Hook.*	1	331
mollis, *Hook.*	1	331
montana, *L.*	1	330
montana, β. L.	1	330
obtusifolia, Less.?	1	330
plantaginea, Pursh.	1	331
Unalaschkiana, Less.?	1	330
AROIDEÆ, *Br.*	2	168
Aronia arbutifolia, Ell.	1	204
arbutifolia, β. Torr.	1	204
Botryapium, Pers.	1	202
melanocarpa, Ell.	1	204
ovalis, Pers.	1	202
pyrifolia, Pers.	1	204
sanguinea, Nutt.	1	203
ARTEMISIA, L.	1	321
arctica, *Besser.*	1	323
arctica, Less.	1	324
biennis, *Willd.*	1	325
borealis, *Pall.*	1	326
cæspitosa, *Less.*	1	324
cana, *Pursh.*	1	325
Canadensis, Mx.	1	325
Chamissoniana, *Bess.*	1	324
Columbiensis, Nutt.	1	325
desertorum, *Spreng.*	1	325
discolor, Dougl.	1	322
Douglasiana, *Bess.*	1	323
Dracunculus, *L.*	1	326
frigida, *Willd.*	1	321
glomerata, *Less.*	1	324
Hispanica, Jacq.	1	325
Hookeriana, *Bess.*	1	322
Indica, *Willd.*	1	322
integrifolia, Rich.	1	323
Lindleyana, *Bess.*	1	322
longifolia, *Nutt.*	1	323
Ludoviciana, *Bess.*	1	322
matricarioides, Less.	1	327
Michauxiana, *Bess.*	1	324
Nuttalliana, *Bess.*	1	324
Prescottiana, *Bess.*	1	324
Purshiana, *Bess.*	1	323
spithamæa, Pursh,	1	326
Tilesii, *Ledeb.*	1	324
virgata, Rich.	1	321
virgata, Rich.	1	325
vulgaris, *L.*	1	322

	VOL.	PAGE
ARUM, *L.*	2	168
triphyllum, *L.*	2	168
Arundo arenaria, L.	2	241
Canadensis, Mx.	2	240
neglecta, Ehrh.	2	240
Phragmites, L.	2	241
stricta, L.	2	240
strigosa, Wahl.	2	241
ASARUM, *L.*	2	139
Canadense, *L.*	2	139
ASCLEPIADEÆ, *Br.*	2	52
ASCLEPIAS, *Br.*	2	52
Douglasii, *Hook.* (TAB. CXLII.)	2	53
hybrida, Mx.	2	52
incarnata, *L.*	2	53
lanceolata, Juss.	2	53
longifolia, Mx. ?	2	53
nivea, *L.*	2	53
obovata, Ell.	2	53
phytolaccoides, Lyon.	2	53
quadrifolia, *Jacq.*	2	53
Syriaca, *L.*	2	52
tuberosa, *L.*	2	54
variegata, *L.*	2	52
variegata, β. *Hook.* (TAB. CXLI.)	2	52
verticillata, *L.* (TAB. CXLIV.)	2	54
viridiflora, *Raf.* (TAB. CXLIII.)	2	53
ASPHODELEÆ, *L.*	2	183
ASPIDIUM, *Sw.*	2	260
acrostichoides, *Sw.*	2	261
aculeatum, *Sw.*	2	261
angustum, Willd.	2	262
asplenioides, Sw.	2	262
bulbiferum, Sw.	2	260
cristatum, *Sw.*	2	261
dilatatum, Willd.	2	261
dumetorum, Sw.	2	261
fragrans, *Sw.*	2	261
Filix fœmina, Sw.	2	262
Filix Mas, Pursh.	2	260
Goldianum, *Hook.*	2	260
intermedium? Willd.	2	261
Lonchitis, *Sw.*	2	261
marginale, *Willd.*	2	260
montanum, Sw.	2	260
munitum, *Kaulf.*	2	261
Noveboracense, Sw.	2	260
obtusum, Willd.	2	259
punctilobum, Willd.	2	264
spinulosum, *Willd.*	2	261
tenue, Willd.	2	260
Thelypteris, *Sw.*	2	260
thelypteroides, Sw.	2	260
vestitum, Sw.	2	261
ASPLENIUM, L.	2	262
Athyrium, Schk.	2	262
ebeneum, *Willd.*	2	262
Filix fœmina, Bernh.	2	262
marinum, *L.*	2	263
melanocaulon, Willd.	2	263
polypodioides, Sw.	2	263
rhizophyllum, *L.*	2	262
Trichomanes, *L.*	2	262
trichomanoides, Mx.	2	263
viride, Huds.	2	262
ASPRELLA, *Humb.*	2	256
Hystrix, *Willd.*	2	256
oryzoides, Lam.	2	233
ASTER, *Cass.*	2	6
acuminatus, *Nees*,	2	9
adulterinus, *Nees*,	2	13
alpinus, *L.*	2	6
amplexicaulis, *Nees*,	2	13
amplus, *Lindl.*	2	10
amygdulinus, Lam.	2	23
annuus, L.	2	20
ascendens, *Lindl.*	2	8
biflorus, *Nees*,	2	7
bellidiflorus, *Nees*,	2	16
blandus, *Herb. Banks*,	2	10
ciliatus, Willd.	2	13
ciliolatus, *Lindl.*	2	9
concinnus, *Nees*,	2	13
conspicuus, *Lindl.*	2	7
cordifolius, *Nees*,	2	8
Cornuti, *Nees*,	2	9
corymbosus, Ait.	2	14
cyaneus, *Nees*,	2	13
diffusus, *Nees*,	2	12
divaricatus, L.	2	14
divergens, *Nees*,	2	11
divergens, β. Nutt.	2	12
divergens, γ. *Nutt.*	2	12
Douglasii, *Lindl.*	2	10

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ericoides, *Nees,*	2	12
Esperbergensis, Nees,	2	7
exscapus, Rich.	2	16
falcatus, *Lindl.*	2	11
glutinosus, Cass.	2	25
graminifolius, Herb. Banks.	2	16
humilis, Willd.	2	23
infirmus, Mich.	2	14
Lamarckianus, *Nees,*	2	16
laxifolius, *Nees,*	2	10
ledifolius, Pursh	2	15
linariifolius, L.	2	21
longifolius, Nees,	2	10
luxurians, *Nees,*	2	10
luxurians, Spreng.	2	10
macrophyllus, L.	2	14
Menziesii, *Lindl.*	2	12
miser, *Nees,*	2	12
modestus, *Lindl.*	2	8
multiflorus, *Nees,*	2	13
nemoralis, Ait.	2	15
Novæ Angliæ, *Nees,*	2	8
Novi Belgii, Nutt.	2	10
paniculatus, Nees,	2	8
paniculatus, Lam.	2	11
parviflorus, *Nees,*	2	14
patulus, Lam.	2	9
pauciflorus, Nutt.	2	13
pendulus, *Nees,*	2	12
peregrinus, *Nees,*	2	7
præcox, *Nees,*	2	9
puniceus, *Nees,*	2	10
pygmæus, *Lindl.*	2	6
Radula, *Nees,*	2	7
ramulosus, *Lindl.*	2	13
Richardsonii, *Spreng.*	2	7
rigidus, L.	2	21
rubricaulis, *Nees,*	2	13
sagittifolius, *Nees,*	2	9
salicifolius, Rich.	2	10
salsuginosus, *Rich.*	2	6
salsuginosus, Less.	2	7
Shortii, *Hook.* (in foot note)	2	9
solidaginoides, Mx.	2	14
spathulatus, *Lindl.*	2	8
strictus, *Nees,*	2	13
strictus, Pursh.	2	7
tardiflorus, Herb. Linn.	2	9
Tilesii, Wikstr.	2	7
Tradescanti, *Nees,*	2	12
Tradescanti, Hoffm.	2	9
Tradescanti, Willd.	2	11
umbellatus, Ait.	2	23
Unalaschkensis, *Nees,*	2	7
uniflorus, Mx.	2	15
vimineus, *Nees,*	2	10
ASTRAGALUS, *DC.*	1	148
aboriginorum, Rich.	1	144
adsurgens, *Pall.*	1	149
agrestis, Dougl.	1	148
alpinus, L.	1	145
arenarius, Pall.	1	148
argentatus, Pall.	1	147
campestris, L.	1	147
Canadensis, *L.*	1	152
carnosus, Nutt.	1	150
Carolinianus, L. ?	1	152
caryocarpus, *Ker.*	1	150
crassicarpus, Fraz.	1	150
deflexus, Pall.	1	148
diaphanus, *Dougl.*	1	148
Drummondii, *Dougl.* (TAB. LVII.)	1	153
glareosus, *Dougl.*	1	152
hypoglottis, *L.*	1	148
inflexus, *Dougl.*	1	151
Labradoricus, *DC.*	1	150
Laxmanni, Pall.	1	149
lentiginosus, *Dougl.*	1	151
lotiflorus, *Hook.*	1	152
melanocarpon, *Fras.*	1	150
melanocarpus, Hook.	1	150
Missouriensis ? Nutt.	1	150
montanus, Jacq.	1	145
nigrescens, Pall.	1	147
nitidus, Dougl.	1	149
orthocarpus, Dougl.	1	152
parviflorus, Lam.	1	148
pauciflorus, *Hook.*	1	149
pectinatus, Dougl.	1	142
Purshii, *Dougl.*	1	152
retroflexus, Pall.	1	148
secundus, Mx.	1	150
succulentus, Rich.	1	150
succumbens, *Dougl.*	1	151

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triphyllus, Pursh.	1	143
vaginatus, *Pall.*	1	149
Uralensis, L.	1	145
***Atheropogon oligostachya*, Nutt.**	2	242
ATHYRIUM, *Presl.*	2	262
angustatum, Presl.	2	262
Filix-fœmina, *Roth*,	2	262
fragile, Rich.	2	260
***Atragene Americana*, Sims,**	1	2
ATRIPLEX, *L.*	2	128
angustifolia, *Sm.*	2	128
canescens, *Nutt.*	2	128
Gmelini, *Mey.*	2	128
littoralis, *L.*	2	128
patula, *L.*	2	128
AVENA, *L.*	2	244
atro-purpurea, Link,	2	243
glumacea, Mx.	2	244
mollis, Mx.	2	243
Scheuchzeri, Poll.	2	244
spicata, L.	2	244
striata, *Mx.*	2	244
versicolor, *Vill.*	2	244
AUDIBERTIA, *Benth.*	2	112
incana, *Benth.*	2	112
***Axyris ceratoides*, L.**	2	126
fruticosa, Gmel.	2	126
AZALEA, *Don*,	2	44
Lapponica, L.	2	43
nudiflora, L.	2	42
periclymenoides, Mx.	2	42
procumbens, *L.*	2	44
viscosa, L.	2	42
AZOLLA, *Lam.*	2	268
Caroliniana, *Willd.*	2	268
microphylla, Kaulf.	2	268
BAHIA, *Lag.*	1	315
artemisiæfolia, *Less.*	1	315
BALSAMINEÆ, *Rich.*	1	117
BAPTISIA, *Vent.*	1	129
alba, *Br.*	1	129
tinctoria, *Br.*	1	129
BARBAREA, *Br.*	1	39
præcox, *Br.*	1	39
vulgaris, *Br.*	1	39
BARTONIA, *Nutt.*	1	221
albicaulis, *Dougl.*	1	222
lævicaulis, *Dougl.* (TAB. LXIX.)	1	221
parviflora, *Dougl.*	1	221
BARTSIA, *L.*	2	106
acuminata, Pursh,	2	106
alpina, *L.*	2	106
coccinea, L.	2	105
pallida, Mx.	2	105
pallida, L.	2	105
tenuifolia, Pursh,	2	105
BATIS, *L.*	2	128
? vermiculata, *Hook.*	2	128
Batschia Caroliniana*, *Ræm.	2	88
canescens, Mx.	2	88
Caroliniensis, Gmel.	2	88
conspicua, Rich.	2	88
decumbens, Nutt.	2	88
Gmelini, Mx.	2	88
longiflora, Pursh,	2	87
sericea, Rœm.	2	88
BENZOIN, *N. ab E.*	2	137
odoriferum, *N. ab E.*	2	137
BERBERIDEÆ, *Vent.*	1	28
BERBERIS, *L.*	1	28
Aquifolium, *Pursh*,	1	29
Canadensis, Mill.	1	28
fascicularis, Bot. Mag.	1	28
nervosa, *Pursh*,	1	29
pinnata, *Lagasc.*	1	28
repens, Bot. Reg.	1	29
vulgaris, *L.*	1	28
BETULA, *L.*	2	155
carpinifolia, Ehrh.	2	156
excelsa, *Ait.*	2	156
glandulosa, *Mx.*	2	156
incana, L.	2	157
lenta, *L.*	2	156
lutea, Mx.	2	156
nana, *L.*	2	156
occidentalis, Hook.	2	155
ovata, Schr.	2	157
papyracea, Ait.	2	155
populifolia, Ait.	2	155
pumila, L.	2	156
serrulata, Ait.	2	157
BIDENS, *L.*	1	314
cernua, *L.*	1	214
chrysanthemoides, *Mx.*	1	314

	VOL.	PAGE
connata, *Willd.*	1	314
frondosa, *L.*	1	314
pilosa, *L.*	1	314
BLECHNUM, *L.*	2	263
boreale, *Sw.*	2	263
doodioides, *Hook.*	2	263
BLEPHARIPAPPUS, *Hook.*	1	316
glandulosus, *Hook.*	1	316
scaber, *Hook.*	1	316
BLITUM, *L.*	2	126
capitatum, *L.*	2	126
chenopodioides, *Nutt.*	2	126
BOEHMERIA, *L.*	2	142
cylindrica, *Pursh,*	2	142
BOLTONIA, *L'Hérit.*	2	23
glastifolia, *Pursh,*	2	23
Boottia sylvestris, Big.	1	186
BORAGINEÆ, *Juss.*	2	80
Boschnajakia glabra, Bunge,	2	92
BOTRYCHIUM, *Sw.*	2	265
gracile, Pursh,	2	265
Lunaria, *Sw.*	2	265
obliquum, *Muhl.*	2	265
silaifolium, *Presl.*	2	266
simplex, *Hitch.*	2	265
Virginicum, *Sw.*	2	266
Botrypus Virginianus, Mx.	2	266
Brachyclytrum erectum, Beauv.	2	237
aristatum, R. et S.	2	237
BRACHYRIS, *Nutt.*	2	23
Euthamia, *Nutt.*	2	23
Brasenia peltata, Pursh,	1	32
BRAYA, *Sternb.*	1	65
alpina, *Sternb.*	1	65
arctica, Hook.	1	66
glabella, *Rich.*	1	65
pilosa, *Hook.* (TAB. XVII. A.)	1	65
Briza Canadensis, Mx.	2	249
BRIZOPYRUM, *Presl.*	2	254
boreale, *Presl.*	2	254
spicatum, *H. and A.*	2	254
BRODIÆA, *Sm.*	2	186
congesta, *Sm.*	2	186
coronaria, Salisb.	2	186
grandiflora, *Hook.*	2	186
grandiflora, Nutt.	2	185
BROMUS, *L.*	2	252
purgans, *L.*	2	252
Sitchensis, *Bong.*	2	253
strigosus, Bieb.	2	254
Brizopyrum boreale,	2	244
Bunias maritima, Pursh.	1	59
BUPLEURUM, *L.*	1	263
angulosum, Schul.	1	263
ranunculoides, *L.*	1	263
Cacalia atriplicifolia, Willd.	1	332
reniformis, Willd.	1	332
CACTEÆ, *Vent.*	1	229
CAKILE, L.	1	59
Ægyptiaca, Juss.	1	59
Americana, Nutt.	1	59
edentula, *Hook.*	1	59
CALAMAGOSTRIS, *Adans.*	2	240
Aleutica, *Trin.*	2	241
arenaria, Roth.	2	241
Canadensis, *Beauv.*	2	240
Canadensis, Nutt.	2	240
coarctata, *Torr.*	2	240
colorata, Sibth.	2	234
longifolia, *Hook.*	2	241
Mexicana, Nutt.	2	240
purpurascens, *Br.*	2	240
stricta, *Nutt.*	2	240
strigosa, *Bong.*	2	241
sylvatica, Trin.	2	240
CALLA, *L.*	2	169
palustris, *L.*	2	169
Calligonum canescens, Pursh,	2	128
CALLIOPSIS, *Reich.*	1	311
Atkinsoniana, *Hook.*	1	311
CALLITRICHE, *L.*	1	216
aquatica, Big.	1	217
aquatica, γ. Sm.	1	217
autumnalis, *L.*	1	217
brevifolia, Pursh,	1	217
heterophylla, Pursh,	1	217
linearis, Pursh,	1	217
terrestris, *Rafin.*	1	217
verna, *L.*	1	217
Calluna vulgaris, *Salisb.**		
CALOCHORTUS, *Pursh,*	2	183

* This should have been inserted at p. 39, as an inhabitant of Newfoundland, on the authority of De la Pylaie.

	VOL.	PAGE
elegans, *Pursh*,	2	183
macrocarpus, *Dougl.*	2	183
nitidus, *Dougl.*	2	183
CALOPOGON, *Br.*	2	202
pulchellus, *Br.*	2	202
CALTHA, *L.*	1	22
arctica, *Br.*	1	22
asarifolia, *DC.*	1	22
biflora, *DC.*	1	22
leptosepala, *DC.* (TAB. X.)	1	22
natans, *Pall.*	1	22
palustris, *L.*	1	22
CALYPSO, *Salisb.*	2	195
Americana, Br.	2	195
borealis, *Salisb.*	2	195
CALYSTEGIA, *Br.*	2	77
sepium, *Br.*	2	77
spithamæa, Pursh,	2	77
tomentosa, Pursh,	2	77
CAMASSIA, *Lindl.*	2	185
esculenta, *Hook.*	2	185
CAMELINA, *Crantz*,	1	65
barbareæfolia, *DC.*	1	65
CAMPANULACEÆ, *Br.*	2	26
CAMPANULA, *L.*	2	26
acuminata, Mx.	2	28
algida, *Fisch.*	2	28
Americana, *Alph. DC.*	2	28
amplexicaulis, Mx.	2	29
aparinoides, *Alph. DC.*	2	28
dasyantha, *Alph. DC.*	2	27
dubia, *Alph. DC.*	2	27
erinoides, Muhl.	2	28
lasiocarpa, *Alph. DC.*	2	28
linifolia, *Alph. DC.*	2	27
nitida, Ait.	2	28
perfoliata, L.	2	29
petiolata, *Alph. DC.*	2	27
planiflora, *Alph. DC.*	2	28
pratensis, *Alph. DC.*	2	27
rotundifolia, *Alph. DC.*	2	27
rotundifolia, β. Rich.	2	27
Scouleri, *Hook.* (TAB. CXXV.)	2	28
uniflora, *Alph. DC.*	2	29
CANNABIS, *L.*	2	142
sativa, *L.*	2	142
Cantua parviflora, Pursh,	2	74
CAPPARIDEÆ, *Juss.*	1	70
CAPRIFOLIACEÆ, *Juss.*	1	278
Caprifolium bracteosum, Mx.	1	282
ciliosum, Dougl.	1	282
ciliosum, Pursh,	1	283
Douglasii, Lindl.	1	282
occidentale, Lindl.	1	282
parviflorum, Pursh,	1	282
parviflorum, Rich.	1	282
pubescens, Gold.	1	282
CAPSELLA, *Vent.*	1	69
Bursa Pastoris, *Mænch.*	1	69
CARDAMINE, *L.*	1	43
angulata, *Hook.*	1	44
articulata, Pursh,	1	47
bellidifolia, *L.*	1	44
digitata, *Rich.*	1	45
hastulata, Sm.	1	42
hirsuta, *L.*	1	45
Menziesii, *Hook.*	1	46
Menziesii, DC.	1	62
parviflora ? L.	1	45
Pennsylvanica, Muhl.	1	45
petræa, *Lightf.*	1	42
pratensis, *L.*	1	45
purpurea, *Cham.*	1	44
rhomboidea, DC.	1	44
rotundifolia, *Mx.*	1	44
sylvatica, L. ?	1	45
Virginica, L.	1	45
CARDUUS, *L.*	1	302
arvensis, *Sm.*	1	302
discolor, *Nutt.*	1	302
foliosus, *Hook.*	1	303
lanceolatus, *L.*	1	302
muticus, *Nutt.*	1	302
odoratus, Muhl.	1	302
pumilus, *Nutt.*	1	302
remotifolius, *Hook.*	1	302
CAREX, *L.*	2	207
acuta, Dewey,	2	218
adusta, *Boott.*	2	215
affinis, *R. Br.*	2	209
alba, var. Dewey.	2	226
amplifolia, *Boott*, (TAB. CCXXVI.)	2	228
ampullacea, *Good.*	2	221
ampullacea, Dewey,	2	221

	VOL.	PAGE
anceps, *Muhl.*	2	226
angustata, *Boott.*	2	218
anthericoides, *Presl.*	2	211
anthoxantha, *Presl.*	2	209
aperta, *Boott.* (TAB. CCXIX.)	2	218
aquatilis, *Wahl.*	2	219
arctata, *Boott.*	2	227
arctica, Dewey,	2	216
arida, *Torr.*	2	214
aristata, *R. Br.*	2	222
atherodes, Spreng.	2	222
atrata, *L.*	2	216
attenuata, R. Br.	2	209
aurea, *Nutt.*	2	226
Backiana, Dewey,	2	209
Backii, *Boott.* (TAB. CCIX.)	2	210
bicolor, *Allioni.*	2	216
blanda, Dewey,	2	226
blepharophora, Gray,	2	227
bromoides, *Schk.*	2	212
bullata, *Schk.*	2	221
Buxbaumii, Wahl.	2	216
cæspitosa, *L.*	2	217
canescens, *L.*	2	216
canescens, β. Torr.	2	214
capillaris, *L.*	2	227
capitata, *L.*	2	208
Carltonia, Dewey,	2	214
cephalophora, *Muhl.*	2	216
chordorhiza, *Ehrh.*	2	211
circinnata, *Meyer.*	2	209
Columbiana, Dewey,	2	217
compacta, *R. Br.*	2	220
concinna, *R. Br.*	2	223
concolor, R. Br.	2	217
conoidea, *Schk.*	2	226
crinita, *Lam.*	2	219
cristata, *Schw.*	2	215
cryptocarpa, *Meyer*,	2	219
curta, *Good.*	2	214
debilis, *Mx.*	2	216
Deweyana, *Schw.*	2	213
dioica, *L.*	2	208
digitalis, Schw.	2	217
digitalis, Willd.	2	226
disperma, *Dewey*,	2	211
Douglasii, *Boott.* (TAB. CCXIV.)	2	213
eburnea, *Boott.* (TAB. CCXXV.)	2	226
elongata, *L.*	2	213
Emmonsii, Dewey,	2	223
festiva, *Dewey*,	2	215
festucacea, *Schk.*	2	215
filifolia, *Nutt.*	2	208
filiformis, *L.*	2	223
flava, *L.*	2	225
flexilis, *Rudge*,	2	227
flexuosa, Schk.	2	216
folliculata, *L.*	2	221
folliculata, Schk.	2	221
Franklinii, *Boott.* (TAB. CCXVIII.)	2	217
fuliginosa, *Sternb.*	2	224
fulva, *Good.*	2	225
fulvicoma, *Dewey*,	2	211
glareosa, *Wahl.*	2	214
Gmelini, *Hook.*	2	216
gracillima, *Schw.*	2	217
granularis, *Muhl.*	2	226
Grayana, Dewey,	2	224
heleonastes, *L.*	2	214
Hepburnii, *Boott*, (TAB. CCVII.)	2	209
hirsuta, *Willd.*	2	216
Hoodii, *Hook.* (TAB. CCXI.)	2	211
Hookeriana, *Dewey*, (TAB. CCXII.)	2	212
Hoppneri, *Boott.* (TAB. CCXX.)	2	219
Houghtoni, *Torr.*	2	223
hybrida, Schk.	2	228
hystericina, *Muhl.*	2	222
incurva, *Lightf.*	2	211
intermedia, *Good.*	2	212
intumescens, *Rudge*,	2	221
irrigua, *Smith*,	2	244
Jamesii, Torr.	2	220
lacustris, *Willd.*	2	227
lagopina, Wahl.	2	214
lagopodioides, *Schk.*	2	214
lanuginosa, *Mx.*	2	223
latifolia, Schk.	2	226
laxa, Dewey,	2	224
laxiflora, *Lam.*	2	226
leiocarpa, *Meyer*,	2	208
lenticularis, *Mx.*	2	219
leporina, *L.*	2	214
Liddoni, *Boott*, (TAB. CCXV.)	2	214
limosa, *L.*	2	224

	VOL.	PAGE
limosa β. Wahl.	2	224
limosa γ. Wahl.	2	224
limosa δ. Wahl.	2	224
livida, *Willd.*	2	224
loliacea, Dewey,	2	211
longirostris, *Torrey*,	2	222
lupulina, *Muhl.*	2	221
Lyoni, *Boott*, (TAB. CCVIII.)	2	209
macrocephala, *Willd.* (TAB. CCXVI.)	2	215
macrochæta, *Mey.*	2	219
marcida, *Boott*, (TAB. CCXIII.)	2	212
marginata, Muhl.	2	223
marina, *Dewey*,	2	214
maritima, *Muller*,	2	219
media? R. Br.	2	216
membranacea, *Hook.*	2	220
Menziesiana, Sm.	2	215
Mertensii, *Prescott*, (TAB. CCXVII.)	2	217
microglochin, *Wahl.*	2	210
micropoda, *Mey.*	2	209
microstachya, *Ehrh.*	2	225
microstachya, Mx.	2	209
miliacea, *Muhl.*	2	216
miliaris, *Mx.*	2	224
misandra, R. Br.	2	224
Muhlenbergii, *Schk.*	2	212
muricata, *L.*	2	212
multiflora, *Muhl.*	2	212
mutica, R. Br.	2	226
nigella, *Boott.*	2	225
nigra, *Allion.*	2	224
nigricans, *Meyer*,	2	210
Novæ Angliæ, Schw.	2	223
Oakesiana, Dewey,	2	220
obtusata, *Lilj.*	2	209
Œderi, *Ehrh.*	2	225
oligocarpa, *Schk.*	2	226
oligosperma, *Mx.*	2	220
ornithopoda, Dewey,	2	223
ovalis, *Good*,	2	214
ovata, *Rudge*,	2	216
ovata, Dewey,	2	217
pallescens, *L.*	2	226
pallida, Mey.	2	212
panicea β. Wahl.	2	226
paradoxa, *Schk.*	2	213
pauciflora, *Lightf.*	2	210
Parryana, *Dewey*,	2	216
paupercula, Mx.	2	224
paupercula, Torr.	2	226
pedunculata, *Muhl.*	2	217
pellita, Muhl.	2	223
Pennsylvanica, *Lam.*	2	223
petasata, *Dewey*,	2	214
petricosa, *Dewey*,	2	216
phæostachya, *Sm.*	2	226
physocarpa, *Presl*,	2	219
plantaginea, *Lam.*	2	226
plantaginea, Muhl.	2	226
podocarpa, *R. Br.* (TAB. CCXXIV.)	2	224
polytrichoides, *Muhl.*	2	209
Pseudo-cyperus, *L.*	2	222
pubescens, *Muhl.*	2	223
pulla, Good.	2	220
Pyrenaica, *Wahl.*	2	210
rariflora, *Sm.*	2	224
recta, *Boott*, (TAB. CCXXII.)	2	220
Redowskiana, Mey.	2	206
remota, Rich.	2	213
retroflexa, *Muhl.*	2	212
retrorsa, *Schw.*	2	222
Richardi, Mx.	2	214
Richardsoni. *R. Br.* (TAB. CCXXIII.)	2	223
rigida, *Good.*	2	217
rosea, *Schk.*	2	212
Rossii, *Boott*,	2	222
rostrata, Schk.	2	222
rostrata, Mx.	2	221
rotundata, *Wahl.*	2	220
rupestris, *Allion.*	2	209
salina, *Wahl.*	2	219
saxatilis, *L.*	2	220
saxatilis, Fl. Dan.	2	217
scabrata, *Schw.*	2	222
Schweinitzii, *Dewey*,	2	222
scirpoidea, *Mx.*	2	208
Schkuhrii, Dewey,	2	225
scoparia, *Schk.*	2	214
Scouleri? Torrey,	2	219
siccata, *Dewey*,	2	212
Sitchensis, *Prescott*, (TAB. CCXXI.)	2	220
spectabilis, Dewey,	2	219
stellulata, *Good.*	2	214
stenophylla, *Wahl.*	2	211

	VOL.	PAGE
stipata, Muhl.	2	212
straminea, *Schk.*	2	215
striata, Mx.	2	223
stricta, *Good.*	2	218
stylosa? Meyer,	2	216
subspathacea, Wormsk.	2	216
subulata, *Mx.*	2	221
supina, *Wahl.*	2	225
sylvatica, Dewey,	2	227
tentaculata, *Muhl.*	2	222
tenuiflora, *Wahl.*	2	214
tenuis, Rudge,	2	216
teretiuscula, *Good.*	2	213
Tolmiei, *Boott.*	2	224
triceps, Mx.	2	216
trichocarpa, *Muhl.*	2	222
trisperma, *Dewey*,	2	213
umbellata, *Schk.*	2	222
ursina, *Dewey*, (TAB. CCX.)	2	211
ustulata, *Wahl.*	2	224
utriculata, *Boott.*	2	221
vaginata? Tausch.	2	226
Vahlii, *Schk.*	2	216
varia, *Muhl.*	2	223
vesicaria, *L.*	2	221
vesicaria, Dewey,	2	221
viridula, Mx.	2	225
Vlechii, Spreng.	2	226
vulpinoidea, *Mx.*	2	212
Wormskioldiana, Horn.	2	208
xanthophysa, Wahl.	2	221
CARPINUS, *L.*	2	160
Americanus, *Willd.*	2	160
Ostrya, Mx.	2	160
CARUM, *L.*	1	261
Carui, *L.*	1	261
CARYA, *Nutt.*	2	143
alba, *Nutt.*	2	143
amara, *Nutt.*	2	144
CARYOPHYLLEÆ, *Juss.*	1	87
CASTANEA, *Gærtn.*	2	159
chrysophylla, *Dougl.*	2	159
CASTILLEJA, *Nutt.*	2	105
coccinea, *Benth.*	2	105
coccinea, Dougl.	2	105
hispida, *Benth.*	2	105
miniata, *Benth.*	2	106
pallida, *Benth.*	2	105
septentrionalis, *Benth.*	2	105
Sibirica, Lindl.	2	105
CATABROSA, *Beauv.*	2	249
aquatica, *Beauv.*	2	249
Caulophyllum gracile, Dougl.	1	30
thalictroides, Mx.	1	30
CEANOTHUS, *L.*	1	124
Americanus, *L.*	1	124
grandis, Dougl.	1	125
intermedius, *Pursh*,	1	124
lævigatus, *Dougl.*	1	124
ovalis, Big.	1	124
sanguineus, *Pursh*,	1	125
thyrsiflorus, *Eschs.*	1	125
velutinus, *Dougl.* (TAB. XLV.)	1	125
CELASTRINEÆ, *Br.*	1	119
CELASTRUS, *L.*	1	120
scandens, *L.*	1	120
CELTIS, *L.*	2	142
occidentalis, *L.*	2	142
CENTAUREA, *L.*	1	301
nigra, *L.*	1	301
CEPHALANTHUS, *L.*	1	287
occidentalis, *L.*	1	287
CERASUS, *Juss.*	1	167
borealis, Mx.	1	168
Canadensis, Willd.	1	169
Chicasa, *Mx.*	1	168
depressa, *DC.*	1	168
emarginata, *Dougl.*	1	169
hyemalis, *DC.*	1	168
mollis, *Dougl.*	1	169
nigra, *Lois.*	1	167
Pennsylvanica, *DC.*	1	168
pumila, *DC.*	1	167
pumila, Mx.	1	168
serotina, *Lois.*	1	169
Virginiana, *Mx.*	1	169
CERASTIUM, *L.*	1	103
alpinum, *L.*	1	104
alpinum, Œd.	1	104
arvense, *L.*	1	104
arvense, Rich.	1	104
Beeringianum, *Cham.*	1	105
elongatum, *Pursh*,	1	103
Fischerianum, *Sm.*	1	103

	VOL.	PAGE
glutinosum, Nutt.	1	103
longipedunculatum, Muhl.	1	105
natans, *Rafin.*	1	104
Pennsylvanicum, *Horn.*	1	104
pubescens, Gold.	1	104
rigidum, *Ledeb.*	1	105
stellarioides, *Moc.*	1	103
tenuifolium, Torr.	1	104
viscosum, *L.*	1	103
vulgatum, *L.*	1	103
CERATOCHLOA, *Beauv.*	2	253
brevi-aristata, *Hook.* (TAB. CCXXXIV.)	2	253
grandiflora, *Hook.* (TAB. CCXXXV.)	2	253
CERATOPHYLLEÆ, *Gray.*	2	118
CERATOPHYLLUM, *L.*	1	218
demersum? *L.*	1	218
Ceratospermum papposum, Pers.	2	126
CERCIS, *L.*	1	166
Canadensis, *L.*	1	167
Chærophyllum Canadense, Pers.	1	262
Claytoni, Pursh.	1	272
CHAMÆRHODOS, *Bung.*	1	196
erecta, *Bung.*	1	196
CHEILANTHES, *Sw.*	2	264
gracilis, Sw.	2	264
vestitus, *Sw.*	2	264
CHEIRANTHUS, *Br.*	1	38
asper, Nutt.	1	64
asper, Schl.	1	38
capitatus, Dougl.	1	38
erysimoides, L.	1	64
Pallasii, *Pursh*,	1	38
Pallasii? Pursh,	1	60
pygmæus, Adams,	1	60
scapiger? Adams,	1	47
CHELONE, *L.*	2	94
glabra, *L.*	2	94
nemorosa (by error "ramosa"), *Dougl.*	2	95
CHENOPODEÆ, *Juss.*	2	125
CHENOPODIUM, *L.*	2	126
album, *L.*	2	127
calceoliforme, *Hook.*	2	126
ficifolium, E. Bot.	2	127
glaucum, *L.*	2	127
humile, *Hook.*	2	127
intermedium, Mert.	2	127
maritimum? *L.*	2	126
rubrum, *L.*	2	127
? spinosum, *Hook.*	2	127
urbicum, *L.*?	2	127
viride, Curt.	2	127
? zosteræfolium, *Hook.*	2	127
CHIMAPHILA, *Pursh.*	2	49
maculata, *Pursh.*	2	49
Menziesii, *Br.* (TAB. CXXXVIII.)	2	49
umbellata, *Pursh.*	2	49
Chironia campanulata, L.	2	70
angularis, *L.*	2	70
gracilis, Mx.	2	70
CHRYSANTHEMUM, *L.*	1	319
arcticum, *L.*	1	319
integrifolium, *Rich.* (TAB. CIX.)	1	319
grandiflorum, Hook.	1	320
Leucanthemum, *L.*	1	319
? nanum, *Hook.*	1	320
Chrysocoma graminifolia, L.	2	6
Chrysopsis alba, Nutt.	2	21
amygdalina, Nutt.	2	23
humilis, Nutt.	2	23
scabra, Nutt.	2	22
villosa, Nutt.	2	22
CHRYSOSPLENIUM, *Tourn.*	1	241
alternifolium, *L.*	1	241
Americanum, *Schw.*	1	242
oppositifolium, *L.*	1	242
oppositifolium, Mx.	1	242
CICENDIA, *Adans.*	2	69
exaltata, *Griseb.* (TAB. CLVII.)	2	69
CICHORIUM, *L.*	1	297
Intybus, *L.*	1	297
CICUTA, *L.*	1	259
bulbifera, *Mx.*	1	260
maculata, *L.*	1	259
virosa, *L.*	1	259
Cimicifuga fœtida, L.	1	26
palmata, Mx.	1	26
racemosa, Bart,	1	27
serpentaria, Pursh,	1	27
Cinna arundinacea, Willd.	2	237
CIRCÆA, *L.*	1	215
alpina, *L.*	1	215
Lutetiana, *L.*	1	215
Cirsium muticum, Mx.	1	302

	VOL.	PAGE
Cissus hederacea, Pursh,	1	114
CISTINEÆ, *Juss.*	1	71
Cistus Canadensis, Willd.	1	72
Cineraria atro-purpurea, Ledeb.	1	334
Canadensis, L.	1	335
congesta, Br.	1	334
frigida, Rich.	1	334
integrifolia, Jacq.	1	335
Lewisii, Rich.	2	17
lyrata, Ledeb.	1	333
palustris, L.	1	334
CISTOPTERIS, *Bernh.*	2	260
bulbifera, *Bernh.*	2	260
fragilis, *Bernh.*	2	260
montana, *Link.*	2	260
CLARKIA, *Pursh*,	1	214
pulchella, *Pursh*,	1	214
rhomboidea, *Dougl.*	1	214
CLAYTONIA, *L.*	1	223
alsinoides, *Pursh*,	1	225
Caroliniana, MX.	1	224
Cubensis, Bonpl.	1	225
filicaulis, *Dougl.* (TAB. LXXII.)	1	224
grandiflora, Sweet,	1	224
lanceolata, *Pursh*,	1	224
linearis, *Dougl.* (TAB. LXXI.)	1	224
parviflora, *Dougl.* (TAB. LXXIII.)	1	225
parviflora ? Moc.	1	224
perfoliata, *Donn*,	1	225
Sibirica, L. ?	1	225
spathulata, *Dougl.* (TAB. LXXIV.)	1	226
spathulæfolia, Sal.	1	224
Unalaschkensis, *Fisch.*	1	225
Virginica, *L.*	1	224
CLEMATIS, *L.*	1	1
Douglasii, *Hook.* (TAB. I.)	1	1
hirsutissima, Pursh,	1	4
obliqua, Dougl.	1	2
verticillaris, *DC.*	1	2
Virginiana, *L.*	1	1
CLEOME, *L.*	1	70
dodecandra, MX.	1	70
lutea, *Hook.* (TAB. XXV.)	1	70
Clinopodium incanum, L.	2	113
vulgare, L.	2	114
CLINTONIA, *Dougl.*	2	30
elegans, *Dougl.*	2	31
CNIDIUM, *Cusson*,	1	264
Canadense, *Spr.*	1	264
COCHLEARIA, *Tourn.*	1	56
Anglica, *L.*	1	57
Danica, *L.*	1	57
fenestrata, *Br.*	1	57
natans, Ledeb.	1	39
oblongifolia, *DC.*	1	56
officinalis, *L.*	1	57
septentrionalis, DC.	1	57
siliquosa, *Schl.*	1	57
spathulata, *Schl.*	1	57
tridactylites, *DC.*	1	57
COLLOMIA, *Nutt.*	2	75
bellidifolia, Dougl.	2	76
gracilis, *Dougl.*	2	76
grandiflora, *Dougl.*	2	76
humilis, Dougl.	2	76
heterophylla, *Dougl.*	2	75
linearis, *Nutt.*	2	76
COLLINSIA, *Nutt.*	2	94
grandiflora, *Lindl.*	2	94
parviflora, *Lindl.* (by error "pauciflora")	2	94
COLLINSONIA, *L.*	2	113
Canadensis, *L.*	2	113
ovalis, Pursh,	2	113
COLPODIUM, *Trin.*	2	238
arundinaceum, *Hook.*	2	238
latifolium, *Br.*	2	238
latifolium, β. Kth.	2	238
pauciflorum, *Hook.*	2	238
COMANDRA, *Nutt.*	2	138
livida, *Rich.* (TAB. CLXXIX. B.)	2	139
umbellata, *Nutt.* (TAB. CLXXIX. A.)	2	139
COMAROPSIS, *Rich*	1	177
Doniana, DC.	1	177
fragarioides, *DC.*	1	177
pedata, DC.	1	181
Comarum palustre, L.	1	187
COMMELINEÆ, *Br.*	2	167
Commelina dubia, Jacq.	2	187
COMPOSITÆ, *Juss.*	1	292
	2	1
COMPTONIA, *Gært.*	2	160
aspleniifolia, *Ait.*	2	160
CONIFERÆ, *Juss.*	2	161
CONIOSELINUM, *Fisch.*	1	265

	VOL.	PAGE
Fischeri, *Wimm.*	1	266
Tataricum, Hoffm.	1	266
Conopodium Canadense, Koch,	1	262
CONIUM, *L.*	1	272
maculatum, *L.*	1	272
Convallaria bifolia, L.	2	175
Canadensis, Pursh,	2	175
multiflora, L.	2	176
racemosa, L.	2	175
stellata, L.	2	175
trifolia, L.	2	175
CONVOLVULACEÆ, *Juss.*	2	76
CONVOLVULUS, *L.*	2	76
arvensis, *Chois.*	2	77
panduratus, *Mx.*	2	77
repens, L.	2	77
sæpium, L.	2	77
spithamæus, L.	2	77
Stans, MX.	2	77
Conyza linifolia, L.	2	14
COPTIS, *Salisb.*	1	23
aspleniifolia, *Salisb.* (TAB. XI.)	1	23
trifolia, *Salisb.*	1	23
CORALLORHIZA, *Br.*	2	194
hyemalis, Nutt.	2	194
innata, *Br.*	2	194
innata, Eat.	2	194
innata, Nutt.	2	194
Mertensiana, *Bong.*	2	194
multiflora, *Nutt.*	2	194
odontorrhiza, Nutt.	2	194
verna, Nutt.	2	194
Wisteriana, Conrad,	2	194
CORE OPSIS, *L.*	1	311
Atkinsoniana, Lindl.	1	311
lanceolata, *L.*	1	311
CORISPERMUM, *L.*	2	125
hyssopifolium, *Stev.*	2	125
CORNEÆ, *DC.*	1	275
CORNUS, *L.*	1	275
alba, *L.*	1	276
alba, Walt.	1	276
alternifolia, *L.*	1	276
Canadensis, *L.*	1	277
circinnata, *L'Hér.*	1	276
circinnata, Cham.	1	276
fastigiata, MX,	1	276

	VOL.	PAGE
florida, *L.*	1	277
lanuginosa, Mx.	1	276
paniculata, *L'Hér.*	1	275
rugosa, Lam.	1	276
sanguinea, *L.*	1	276
sericea, *L'Hér.*	1	276
stolonifera, Mx.	1	276
stricta, *Lam.*	1	275
Suecica, *L.*	1	277
tomentosula, Mx.	1	276
COROLLIFLORÆ, *DC.*	2	33
CORYLUS, *L.*	2	160
Americana, *Wahl.*	2	160
rostrata, *Ait.*	2	160
CORYDALIS, *DC.*	1	36
aurea, *Willd.*	1	37
Canadensis, Gold.	1	35
cucullaria, Pers.	1	35
formosa, Pursh.	1	35
fungosa, Vent.	1	36
glauca, *Pers.*	1	37
pauciflora, *Pers.*	1	37
pæoniæfolia, DC.?	1	36
Scouleri, *Hook.* (TAB. XIV.)	1	36
tenuifolia, Pursh,	1	36
CRASSULACEÆ, *DC.*	1	227
CRATÆGUS, *Lindl.*	1	200
Caroliniana, Poir.	1	202
coccinea, *L.*	1	201
cordata, *Willd.*	1	201
Crus galli, *L.*	1	200
elliptica, *Ait.*	1	201
flava, *Ait.*	1	202
glandulosa, *Willd.*	1	201
glandulosa, Mx.	1	202
polifolia, Walt.	1	201
punctata, *Ait.*	1	201
pyrifolia, *Ait.*	1	201
pyrifolia, Lam.	1	204
racemosa, Lam.	1	202
sanguinea, Pall.	1	201
spicata, Lam.	1	202
CREPIS, *L.*	1	297
biennis, *L.*	1	297
elegans, *Hook.*	1	297
nana, *Rich.*	1	297
CRINITARIA, *Cass.*	2	4

	VOL.	PAGE
? humilis, *Hook.*	2	24
viscidiflora, *Hook.*	2	24
CROCIDIUM, *Hook.*	1	335
multicaule, *Hook.* (TAB. CXVIII.)	1	335
Crotalaria alba, L.	1	129
CROTON, *L.*	2	141
? setigerum, *Hook.*	2	141
CRUCIFERÆ, *Juss.*	1	37
CRYPTOGRAMMA, *Br.*	2	264
acrostichoides, *Br.*	2	264
crispa, *Br.*	2	264
CRYPTOTŒNIA, *DC.*	1	261
Canadensis, *DC.*	1	262
Cucubalus Behen, L.	1	88
stellatus, MX.	1	88
CUCURBITACEÆ, *Juss.*	1	220
CUNILA, *L.*	2	113
glabella, MX.	2	114
Mariana, *L.*	2	113
CUPRESSUS, *L.*	2	165
Nutkatensis, *Lamb.*	2	165
thyoides, *L.*	2	165
CUSCUTA, *L.*	2	77
Americana ? *L.?*	2	77
Americana, Grisw.	2	78
arvensis, Beyrich,	2	77
Europæa, Torrey,	2	78
umbrosa, *Beyrich*,	2	78
Cyathea fragilis, E. Bot.	2	260
tenuis, Schott,	2	260
Cyclobothria elegans, Benth.	2	183
Cylactis montana, Raf.	1	180
Cymbidium hyemale, Willd.	2	194
innatum, Pursh,	2	194
pulchellum, Willd.	2	202
CYNOGLOSSUM, *L.*	2	84
amplexicaule, *Mx.*	2	85
ciliatum, Dougl.	2	85
glomeratum, Fras.	2	85
grande, *Lehm.*	2	85
linifolium, *L.*	2	86
officinale, *L.*	2	85
officinale, H. et A.	2	85
Virginicum, L.	2	85
CYPERACEÆ, *Juss.*	2	207
CYPERUS, *L.*	2	232
diandrus, *Torr.*	2	232
inflexus, *Muhl.*	2	232
occidentalis, *Torr.*	2	232
phymatodes, Muhl.	2	232
pygmæus, Nutt.	2	232
repens, *Ell.*	2	232
spathaceus, L.	2	232
strigosus, *L.*	2	232
tuberosus, Pursh,	2	232
uncinatus, Pursh,	2	232
CYPRIPEDIUM, *L.*	2	204
acaule, Ait.	2	204
album, Ait.	2	205
arietinum, *Br.*	2	205
bulbosum, L.	2	195
Calceolus, γ. L.	2	205
Canadense, MX.	2	205
guttatum, *Sw.*	2	205
humile, *Sw.*	2	204
parviflorum, *Salisb.*	2	205
parviflorum, Rich.	2	205
parviflorum, B. Mag.	2	205
passerinum, *Rich.*	2	205
pubescens, *Willd.* (TAB. CCVI.)	2	205
spectabile, *Sw.*	2	204
Cytisus rhombifolius, Pursh,	1	128
Dalea candida, Willd.	1	137
purpurea, Vent.	1	138
violacea, Willd.	1	138
DALIBARDA, *L.*	1	184
cordata, Steph.	1	184
fragarioides, Sims,	1	177
pedata, Steph.	1	181
repens, *L.*	1	184
violæoides, MX.	1	184
DANTHONIA, *DC.*	2	244
spicata, *R. et S.*	2	244
DAUCUS, *L.*	1	270
microphyllus, *Presl*,	1	271
DECODON, *Gmel.*	1	219
aquaticus, *Gmel.*	1	219
verticillatus, *Ell.*	1	219
DELPHINIUM, *L.*	1	25
alpinum, W. et K.	1	25
exaltatum, *Ait.*	1	25
intermedium ? Ait.	1	25
Menziesii, *DC.*	1	25
simplex, *Dougl.*	1	25

	VOL.	PAGE
tridactylum, Mx.	1	25
tuberosum, Menz.	1	25
urceolatum, Jacq.	1	25
DENTARIA, *L.*	1	46
concatenata, Mx.	1	46
diphylla, *Mx.*	1	46
laciniata, *Muhl.*	1	46
tenella, Pursh,	1	46
tenuifolia, *Ledeb.*	1	46
trifida, Lam.	1	46
DESCHAMPSIA, *Beauv.*	2	242
brevifolia, *Br.*	2	242
cæspitosa, *Beauv.*	2	242
DESMODIUM, *DC.*	1	154
acuminatum, *DC.*	1	154
bracteosum, *DC.*	1	154
Canadense, *DC.*	1	154
nudiflorum, *DC.*	1	154
pauciflorum, *DC.*	1	155
Desvauxia purpurascens, Kth.	2	240
DIANTHUS, *L.*	1	87
repens, *Willd.*	1	87
DIAPENSIACEÆ, *Lindl.*	2	76
DIAPENSIA, *L.*	2	76
Lapponica, *L.*	2	76
obtusifolia, Salisb.	2	76
DICKSONIA, *L'Hérit.*	2	264
pilosiuscula, *Willd.*	2	264
pubescens, Schk.	2	264
DICOTYLEDONEÆ, *Juss.*	1	1
DIELYTRA, *DC.*	1	35
cucullaria, *DC.*	1	35
eximia, *DC.*	1	35
formosa, *DC.*	1	35
lachenaliæfolia, *DC.*	1	36
tenuifolia, *DC.*	1	35
DIERVILLA, *Tourn.*	1	281
Canadensis, *Willd.*	1	281
Tournefortii, Mx.	1	281
Digitalis dasyantha,	2	98
DIOSCOREÆ, *Br.*	2	207
DIOSCOREA, *L.*	2	207
paniculata, Jacq.	2	207
villosa, *L.*	2	207
Diotis ceratoides, Willd.	2	126
lanata, Pursh,	2	126
DIPLOPAPPUS, *Cass.*	2	20
albus, *Lindl.*	2	21
amygdalinus, *Nees*,	2	23
canescens, *Hook.*	2	21
dubius, Cass.	2	20
ficifolius, *Hook.*	2	21
grandiflorus, *Hook.*	2	22
hispidus, *Hook.*	2	22
incanus, *Lindl.*	2	21
linariifolius, *Nees*,	2	21
linearis, *Hook.*	2	21
lutescens, Lindl.	2	21
pinnatifidus, *Hook.*	2	22
scaber, *Hook.*	2	22
umbellatus, *Hook.*	2	22
villosus, *Hook.*	2	22
Diplostephium amygdalinum, Nees,	2	23
linariifolium, Nees,	2	21
DIRCA, *L.*	2	138
palustris, *L.*	2	138
DODECATHEON, *L.*	2	118
dentatum, *Hook.*	2	119
frigidum, *Cham.*	2	119
integrifolium, *Hook.*	2	118
Doellingeria ? amygdalina, Nees,	2	23
ptarmicoides, Nees,	2	21
umbellata, Nees,	2	23
DONIA, *Br.*	2	25
glutinosa, *Br.*	2	25
inuloides, *Hook.*	2	25
lanceolata, *Hook.*	2	25
squarrosa, *Pursh*,	2	25
uniflora, *Hook.* (TAB. CXXIV.)	2	25
Doronicum glutinosum, Willd.	2	25
DOUGLASIA, *Lindl.*	2	119
arctica, *Hook.*	2	120
nivalis, *Lindl.*	2	120
DRABA, *L.*	1	50
algida, *Adams*,	1	50
alpina, *L.*	1	50
alpina, Br.	1	50
androsacea, Wahl.	1	53
arabizans, *Mx.*	1	55
arabizans, Pursh,	1	49
aurea, *Fl. Dan.*	1	55
confusa, *Ehrh.*	1	54
contorta, Ehrh.	1	55
corymbosa, *Br.*	1	52

	VOL.	PAGE
crassifolia, *Grah.*	1	54
glabella, *Pursh,*	1	54
glacialis, *Adams,*	1	51
gracilis, Grah.	1	55
grandis, Langsd.	1	57
hirta, *L.*	1	52
hirta, Jacq.	1	53
hirta, β. Wahl.	1	53
hirta, var. 2,	1	52
hirta, var. 3,	1	53
hirta, var. 4,	1	53
hyperborea, Desv.	1	49
incana, *L.*	1	54
Lapponica, *Willd.*	1	53
lævigata ? *Cham.*	1	54
lævipes, *DC.*	1	53
lutea, *Gilib.*	1	55
micropetala, *Hook.*	1	52
muralis, *L.*	1	56
muralis, β. L.	1	55
muricella, *Wahl.*	1	52
nemoralis, *DC.*	1	55
nivalis, Lil.	1	52
oblongata, *Br.*	1	52
oligosperma, *Hook.*	1	51
pauciflora, *Br.*	1	51
rupestris, *Br.*	1	53
stellata, *Jacq.*	1	53
Unalaschkiana, *DC.*	1	55
verna, L.	1	56
Dracæna borealis, Ait.	2	175
DRACOCEPHALUM, *L.*	2	115
denticulatum, Ait.	2	116
intermedium, Nutt.	2	116
lancifolium, Mœnch.	2	116
obovatum, Ell.	2	116
parviflorum, *Nutt.*	2	115
speciosum, Sweet,	2	116
variegatum, Vent.	2	116
Virginianum, L.	2	116
Dracontium fœtidum, L.	2	169
Kamstchaticum, L.	2	169
DROSERACEÆ, *DC.*	1	81
DROSERA, *L.*	1	81
Anglica, *Huds.*	1	81
capillaris, Poir.	1	81
linearis, *Gold.* (TAB. XXVII. A.)	1	82
rotundifolia, *L.*	1	81
Drummondia mitelloides, DC.	1	241
DRYAS, *L.*	1	174
Drummondii, *Rich.*	1	174
integrifolia, *Vahl.*	1	174
octopetala, *L.*	1	174
octopetala, Rich.	1	174
pentapetala, L.	1	176
tenella, Pursh,	1	174
DULICHIUM, *Rich.*	2	232
Canadense, Pursh,	2	232
spathaceum, *Pers.*	2	232
DUPONTIA, *Br.*	2	242
Fischeri, *Br.*	2	242
ECHINOSPERMUM, *Lehm.*	2	83
deflexum, *Lehm.*	2	84
diffusum, *Lehm.*	2	83
floribundum, *Lehm.* (TAB. CLXIV.)	2	84
Lappula, *Lehm.*	2	84
patulum, *Lehm.*	2	84
Virginicum, *Lehm.*	2	83
ECHIUM, *L.*	2	89
Menziesii, *Lehm.*	2	89
Elodea campanulata, Pursh,	1	109
Virginica, Nutt.	1	109
verticillata, Mx.	2	193
ELÆAGNEÆ, *Juss.*	2	137
ELÆAGNUS, *L.*	2	137
argentea, *Rich.*	2	137
ELYMUS, *L.*	2	255
arenarius, *L.*	2	255
Canadensis, *L.*	2	255
dasystachys, Trin.	2	255
Europæus, *L.*	2	256
glaucifolius, Willd.	2	255
hirsutus, *Presl,*	2	255
Hystrix, L.	2	256
mollis, *Br.*	2	255
Philadelphicus, L.	2	255
Sibiricus, *L.*	2	255
villosus, *Muhl.*	2	256
Virginicus, *L.*	2	255
ELEOCHARIS, *Br.*	2	228
acicularis, *Br.*	2	229
cæspitosa, *Link,*	2	229
multicaulis, *Sm.*	2	228
obtusa, *Schultes,*	2	229

	VOL.	PAGE
palustris, *Br.*	2	228
pauciflora, *Link.*	2	229
ELYNA, *Schrad.*	2	228
caricina, *Mert.*	2	228
spicata, *Schrad.*	2	228
EMPETREÆ, *Nutt.*	2	140
EMPETRUM, *L.*	2	140
nigrum, *L.*	2	140
EPIGÆA, *L.*	2	42
repens, *L.*	2	42
EPILOBIUM, *L.*	1	204
alpinum, *L.*	1	205
alsinifolium, Vill.	1	206
angustifolium, *L.*	1	205
coloratum, *Willd.*	1	205
glandulosum, *Lehm.*	1	205
Hornemanni, Reich.	1	206
latifolium, *L.*	1	205
lineare, Muhl.	1	207
luteum, *Pursh*,	1	208
minutum, *Lindl.*	1	207
oliganthum, *Mx.*	1	208
opacum, *Lehm.*	1	205
origanifolium, *Lam.*	1	206
palustre, *L.*	1	207
palustre, var. Wahl.	1	207
rosmarinifolium, Pursh ?	1	207
spicatum, Lam.	1	205
squamatum ? Nutt.	1	207
tenellum, *Desv.*	1	207
tetragonum, *L.*	1	206
venustum, Dougl.	1	205
EPIMEDIUM, *L.*	1	30
hexandrum, *Hook.* (TAB. XIII.)	1	30
EPIPACTIS, *Hall.*	2	202
convallarioides, Sw.	2	204
cordata, Sw.	2	204
gigantea, *Dougl.* (TAB. CCII.)	2	202
EPIPHEGUS, *Nutt.*	2	93
Americana, *Nutt.*	2	93
EQUISETACEÆ, *Rich.*	2	269
EQUISETUM, *L.*	2	269
arvense, *L.*	2	269
fluviatile, *L.*	2	269
hyemale, *L.*	2	270
limosum, *L.*	2	269
palustre, *L.*	2	269
scirpoides, Mx.	2	270
sylvaticum, *L.*	2	269
uliginosum, Willd. ?	2	269
umbrosum, *Mey.*	2	269
variegatum, *L.*	2	270
Eragrostis capillaris, Nees,	2	244
reptans, Nees,	2	244
Erechthites prælta, Raf.	1	332
ERICEÆ, *Juss.*	2	35
Erica Stelleriana, Willd.	2	37
Eriocoma cuspidatum, Nutt.	2	237
ERIGERON, *L.*	2	16
alpinus, *L.*	2	18
alpinus, Pursh,	2	17
alpinus, β. Wahl.	2	18
annuus, *L.*	2	20
bellidifolius, Willd.	2	19
Canadensis, *L.*	2	20
compositus, *Pursh*,	2	17
florifer, *Hook.*	2	20
glabellus, *Nutt.*	2	19
glabratus, *Hoppe*,	2	18
grandiflorus, *Hook.* (TAB. CXXIII.)	2	18
heterophyllus, Willd.	2	20
? hyssopifolius, *Mx.*	2	20
lanatus, *Hook.* (TAB. CXXI.)	2	17
lonchophyllus, *Hook.*	2	18
Philadelphicus, *Pursh*,	2	19
pulchellus, *Mx.*	2	19
purpureus, *Ait.*	2	19
radicatus, *Hook.* (TAB. CXXII.)	2	17
Serpentaria, Banks,	2	19
strigosus, *Muhl.*	2	18
trifidus, *Hook.* (TAB. CXX.)	2	17
uniflorus, *L.*	2	17
ERIOGONUM, *Mx.*	2	133
arachnoideum, H. et A.	2	135
cæspitosum, *Nutt.*	2	134
compositum, *Dougl.*	2	135
crassifolium, *Benth.* (TAB. CLXXVI.)	2	134
decumbens, *Benth.*	2	136
dichotomum, *Dougl.*	2	136
elatum, *Dougl.*	2	135
flavum, *Nutt.*	2	133
heracleoides, *Nutt.*	2	136
niveum, *Dougl.*	2	136
nudum, *Dougl.*	2	135

	VOL.	PAGE
ovalifolium, *Nutt.*	2	134
sericeum, Pursh,	2	133
sphærocephalum, *Dougl.* (TAB. CLXXV.)	2	133
stellatum, *Benth.* (TAB. CLXXVII.)	2	134
striatum, *Benth.*	2	135
Tolmieanum, *Hook.*	2	134
vimineum, *Dougl.*	2	136
umbellatum, *Torr.*	2	135
ERIOCAULON, *L.*	2	187
pellucidum, Mx.	2	187
septangulare, *With.*	2	187
ERIOGYNIA, *Hook.*	1	255
pectinata, *Hook.* (TAB. LXXXVIII.)	1	255
ERIOPHORUM, *L.*	2	230
alpinum, *L.*	2	230
angustifolium, *Roth*,	2	231
Callithrix, Cham.	2	231
capitatum, *Host*,	2	231
Chamissoi, Mert.	2	231
cæspitosum, Host,	2	231
cyperinum, Willd.	2	230
gracile, *Roth*,	2	232
Hudsonianum, Mx.	2	230
polystachyon, *L.*	2	231
polystachyon, Gray,	2	231
polystachyon, β. Rich.	2	231
Scheuchzeri, Roth,	2	231
strictum, *Br.*	2	232
tenellum, Nutt.	2	231
triquetrum, Hoppe,	2	232
vaginatum, *L.*	2	231
Virginicum, *L.*	2	231
Eriophyllum cæspitosum, Dougl.	1	315
ERODIUM, *L'Hérit.*	1	116
cheilanthifolium, Dougl.	1	117
cicutarium, *DC.*	1	116
EROPHILA, *DC.*	1	56
vulgaris, *DC.*	1	56
ERYTHRONIUM, *L.*	2	182
Americanum, *Gawl.*	2	182
Dens Canis, var. Mx.	2	182
flavum, Sm.	2	182
giganteum, Lindl.	2	182
grandiflorum, *Ph.*	2	182
grandiflorum, Ph.	2	182
revolutum, Sm.	2	182
ERVUM, *L.*	1	158
hirsutum, *L.*	1	158
tetraspermum, *L.*	1	158
ERYSIMUM, *L.*	1	64
? asperum, *DC.* (TAB. XXII.)	1	64
Barbarea, L.	1	39
cheiranthoides, *L.*	1	64
lanceolatum, *Br.*	1	64
officinale, *L.*	1	61
præcox, Sm.	1	40
virgatum ? Roth,	1	64
ESCHSCHOLTZIA, *Cham.*	1	34
Californica, *Cham.*	1	34
Euchroma coccinea, Nutt.	2	105
EUONYMUS, *L.*	1	119
Americanus, *L.*	1	119
atro-purpureus ? *Jacq.*	1	119
Evosmos Benzoin, Nutt.	2	137
EUPATORIUM, *L.*	1	304
ageratoides, *L.*	1	304
connatum, Mx.	1	305
? *grandiflorum*, Hook.	2	26
maculatum, *L.*	1	305
occidentale, *Hook.*	1	305
perfoliatum, *L.*	1	305
purpureum, *Mx.*	1	304
rotundifolium, *L.*	1	304
scandens, L.	1	305
urticæfolium, Mx.	1	305
EUPHORBIACEÆ, *Juss.*	2	140
EUPHORBIA, *L.*	2	140
corollata, *L.*	2	140
hypericifolia, *Pursh*,	2	140
obtusata, *Pursh*,	2	140
pilosa, *L.*	2	140
platyphylla, *L.*	2	140
polygonifolia, *L.*	2	140
stricta, *Sm.*	2	140
EUPHRASIA, *L.*	2	106
latifolia, Pursh,	2	106
officinalis, *L.*	2	106
EUROTIA, *Adans.*	2	126
ceratoides, *Ledeb.*	2	126
EURYBIA, *Cass.*	2	14
corymbosa, *Nees*,	2	14
macrophylla, *Nees*,	2	14
EUTOCA, *Br.*	2	79

	VOL.	PAGE
congesta, Dougl.	2	79
echinides, Dougl.	2	79
Franklinii, *Br.*	2	79
glomerata, Dougl.	2	79
Menziesii, *Br.*	2	79
multiflora, Br.	2	79
pulchella, Lehm.	2	79
sericea, *Lehm.*	2	79
EUTREMA, *Br.*	1	66
arenicola, *Rich.* (TAB. XXIV.)	1	67
Edwardsii, *Br.*	1	67
EUTRIANA, *Trin.*	2	242
oligostachya, *Kth.*	2	242
Fagara fraxinifolia, α. Lam.	1	119
FAGUS, *L.*	2	159
ferruginea, *Ait.*	2	159
sylvatica, Pursh,	2	159
sylvatica, β. Nutt.	2	159
sylvestris, Mx.	2	150
FERULA, *L.*	1	268
? Canadensis, *L.*	1	268
foeniculacea, *Nutt.*	1	268
nudicaulis, Nutt.	1	268
Nuttallii, *DC.*	1	268
? Palmella, *Hook.*	1	268
villosa, Willd.	1	267
FESTUCA, *L.*	2	249
borealis, *Mert.* (TAB. CCXXXI.)	2	251
brevifolia, *Br.*	2	250
distans, Kth.	2	245
distichophylla, Mx.	2	254
duriuscula, H. et A.	2	250
fluitans, L.	2	248
Hostii, Kth.	2	245
myurus, *L.*	2	249
nervosa, *Hook.* (TAB. CCXXXII.)	2	251
occidentalis, *Hook.*	2	249
ovina, *L.*	2	250
pratensis, *Huds.*	2	251
Richardsoni, *Hook.*	2	250
rubra, *L.* (TAB. CCXXX.)	2	250
scabrella, *Torr.* (TAB. CCXXXIII.)	2	252
subulata, *Bong.*	2	250
FILICES, *Juss.*	2	258
FRAGARIA, *Tourn.*	1	184
Canadensis, *Mx.*	1	185
Chilensis, *Ehrh.*	1	185
sericea, Dougl.	1	185
vesca, *L.*	1	184
Virginiana, *Mill.*	1	184
FRASERA, *Walt.*	2	66
albicaulis, *Dougl.* (TAB. CLIV.)	2	67
Carolinensis, *Walt.*	2	66
speciosa, *Dougl.* (TAB. CLIII.)	2	66
verticillata, Muhl.	2	66
Walteri, Mx.	2	66
FRAXINUS, *L.*	2	50
acuminata, Lam.	2	51
Americana, *L.*	2	51
epiptera, *Mx.*	2	50
pubescens, *Walt.*	2	51
sambucifolia, *Willd.*	2	50
tomentosa, Mx.	2	51
FRITILLARIA, *L.*	2	181
Kamtschatcensis, *Pisch.* (TAB. CXCIII. A.)	2	181
lanceolata, *Pursh*, (TAB. CXCIII. B.)	2	181
? pudica, *Hook.*	2	182
FUMARIACEÆ, *DC.*	1	35
FUMARIA, *L.*	1	37
Altaica, Ledeb.	1	37
aurea, Curt.	1	37
cucullaria, L.	1	35
cucullaria, Pall.	1	36
formosa, Andr.	1	35
fungosa, Willd.	1	36
glauca, Curt.	1	37
media, DC.	1	37
officinalis, *Pursh*,	1	37
officinalis ? Pursh,	1	37
pauciflora, Steph.	1	37
peregrina, Rud.	1	36
recta, Mx.	1	36
sempervirens, L.	1	37
tenuifolia, Ledeb.	1	36
GAILLARDIA, *Foug.*	1	315
aristata, *Pursh*,	1	315
bicolor, *Lam.*	1	315
bicolor, var. Spreng.	1	315
lanceolata, Mx.	1	315
GALATELLA, *Cass.*	2	15
graminifolia, *Hook.*	2	15
nemoralis, *Nees*,	2	15
GALEOPSIS, *L.*	2	116

	VOL.	PAGE
congesta, Dougl.	2	79
echioides, Dougl.	2	79
Franklinii, *Br.*	2	79
glomerata, Dougl.	2	79
Menziesii, *Br.*	2	79
multiflora, Br.	2	79
pulchella, Lehm.	2	79
sericea, *Lehm.*	2	79
EUTREMA, *Br.*	1	66
arenicola, *Rich.* (TAB. XXIV.)	1	67
Edwardsii, *Br.*	1	67
EUTRIANA, *Trin.*	2	242
oligostachya, *Kth.*	2	242
Fagara fraxinifolia, α. Lam.	1	119
FAGUS, *L.*	2	159
ferruginea, *Ait.*	2	159
sylvatica, Pursh,	2	159
sylvatica, β. Nutt.	2	159
sylvestris, Mx.	2	159
FERULA, *L.*	1	268
? Canadensis, *L.*	1	268
fœniculacea, *Nutt.*	1	268
nudicaulis, Nutt.	1	268
Nuttallii, *DC.*	1	268
? Palmella, *Hook.*	1	268
villosa, Willd.	1	267
FESTUCA, *L.*	2	249
borealis, *Mert.* (TAB. CCXXXI.)	2	251
brevifolia, *Br.*	2	250
distans, Kth.	2	245
distichophylla, Mx.	2	254
duriuscula, H. et A.	2	250
fluitans, L.	2	248
Hostii, Kth.	2	245
myurus, *L.*	2	249
nervosa, *Hook.* (TAB. CCXXXII.)	2	251
occidentalis, *Hook.*	2	249
ovina, *L.*	2	250
pratensis, *Huds.*	2	251
Richardsoni, *Hook.*	2	250
rubra, *L.* (TAB. CCXXX.)	2	250
scabrella, *Torr.* (TAB. CCXXXIII.)	2	252
subulata, *Bong.*	2	250
FILICES, *Juss.*	2	258
FRAGARIA, *Tourn.*	1	184
Canadensis, *Mx.*	1	185
Chilensis, *Ehrh.*	1	185
sericea, Dougl.	1	185
vesca, *L.*	1	184
Virginiana, *Mill.*	1	184
FRASERA, *Walt.*	2	66
albicaulis, *Dougl.* (TAB. CLIV.)	2	67
Carolinensis, *Walt.*	2	66
speciosa, *Dougl.* (TAB. CLIII.)	2	66
verticillata, Muhl.	2	66
Walteri, Mx.	2	66
FRAXINUS, *L.*	2	50
acuminata, Lam.	2	51
Americana, *L.*	2	51
epiptera, *Mx.*	2	50
pubescens, *Walt.*	2	51
sambucifolia, *Willd.*	2	50
tomentosa, Mx.	2	51
FRITILLARIA, *L.*	2	181
Kamtschatcensis, *Fisch.* (TAB. CXCIII. A.)	2	181
lanceolata, *Pursh*, (TAB. CXCIII. B.)	2	181
? pudica, *Hook.*	2	182
FUMARIACEÆ, *DC.*	1	35
FUMARIA, *L.*	1	37
Altaica, Ledeb.	1	37
aurea, Curt.	1	37
cucullaria, L.	1	35
cucullaria, Pall.	1	36
formosa, Andr.	1	35
fungosa, Willd.	1	36
glauca, Curt.	1	37
media, DC.	1	37
officinalis, *Pursh*,	1	37
officinalis ? Pursh,	1	37
pauciflora, Steph.	1	37
peregrina, Rud.	1	36
recta, Mx.	1	36
sempervirens, L.	1	37
tenuifolia, Ledeb.	1	36
GAILLARDIA, *Foug.*	1	315
aristata, *Pursh*,	1	315
bicolor, *Lam.*	1	315
bicolor, var. Spreng.	1	315
lanceolata, Mx.	1	315
GALATELLA, *Cass.*	2	15
graminifolia, *Hook.*	2	15
nemoralis, *Nees*,	2	15
GALEOPSIS, *L.*	2	116

	VOL.	PAGE
Tetrahit, *L.*	2	116
Galega Virginica, L.	1	139
GALIUM, *Scop.*	1	288
Aparine, *L.*	1	290
asprellum, *Mx.*	1	289
boreale, *L.*	1	289
circæzans, &. Torr.	1	289
Claytoni, *Mx.*	1	288
cuspidatum, Muhl.	1	290
lanceolatum, *Torr.*	1	289
micranthum, *Pursh*,	1	290
rubioides, *L.*	1	289
septentrionale, R. et S.	1	289
strictum, Torr.	1	289
suaveolens, Wahl.	1	290
tinctorium, *L.*	1	288
tinctorium, Rich.	1	288
Torreyi, Big.	1	289
trifidum, L.	1	288
triflorum, *Mx.*	1	290
GARRYACEÆ, *Lindl.*	2	143
GARRYA, *Lindl.*	2	143
elliptica, *Dougl.*	2	143
GAULTHERIA, *L.*	2	35
fruticosa, Menz.	2	36
hispidula, *Muhl.*	2	36
myrsinites, *Hook.* (TAB. CXXIX.)	2	35
procumbens, *L.*	2	35
serpyllifolia, Pursh,	2	36
Shallon, *Pursh*,	2	36
GAURA, *L.*	1	208
biennis, *L.*	1	209
coccinea, *Fras.*	1	208
glabra, *Lehm.*	1	209
marginata, *Lehm.*	1	208
parviflora, *Dougl.*	1	208
GENTIANEÆ, *Juss.*	2	54
GENTIANA, *L.*	2	54
acuta, *Mx.*	2	63
affinis, *Griseb.*	2	56
Aleutica, *Cham.*	2	61
Amarella, Rich.	2	63
amarelloides, Mx.	2	63
Andrewsii, *Griseb.*	2	57
angustifolia, *Mx.*	2	57
aquatica, Frœl.	2	60
aquatica, α. Frœl.	2	60

	VOL.	PAGE
arctophila, *Griseb.* (TAB. CXLIX.)	2	61
aurea, *L.*	2	61
barbata, Bong.	2	64
barbata, Frœl.	2	64
borealis, Bong.	2	63
brachypetala, Bong.	2	64
cæspitosa, Grah.	2	59
calycosa, *Griseb.* (TAB. CXLVI.)	2	58
Catesbæi, Andr.	2	56
Catesbæi, Walt.	2	55
Catesbæi, Ell.	2	55
ciliata, Gunn.	2	64
ciliata, Pall.	2	64
ciliata Americana, *L.*	2	65
crinita, *Frœl.*	2	65
detonsa, Fries,	2	64
dichotoma, Pall.	2	63
Douglasiana, *Bong.* (TAB. CXLVIII.)	2	60
fimbriata, Andr.	2	65
fimbriata, Vahl,	2	55
glacialis, Thom.	2	63
glauca, *Pall.* (TAB. CXLVII.)	2	59
intermedia, Rich.	2	64
involucrata, Fries,	2	61
linearis, Frœl.	2	55
Menziesii, *Griseb.*	2	59
major Virginiana, Pluk.	2	56
nutans, Bong.	2	60
ochroleuca, *Frœl.*	2	56
ochroleuca, Frœl.	2	56
platypetala, *Griseb.*	2	58
plebeja, Bong.	2	63
Pneumonanthe, Mx.	2	55
porphyris, Walt.	2	57
propinqua, *Rich.* (TAB. CL.)	2	63
prostrata, *Hook.*	2	60
pseudo-pneumonanthe, Rich.	2	55
puberula, Mx.?	2	55
purpurea, Walt.	2	57
quinqueflora, *Lam.*	2	62
quinquefolia, L.	2	63
rotata, Frœl.	2	65
Rurikiana, Cham.	2	62
Saponaria, *L.*	2	55
Saponaria, Frœl.	2	56
Saponaria, Walt.	2	56

	VOL.	PAGE
Sceptrum, *Griseb.* (Tab. CXLV.)	2	57
serrata, Gunn,	2	64
setiflora, Bong.	2	62
tenella, *Fries*,	2	63
tenuis, *Griseb.* (Tab. CLI.)	2	63
trichotoma, Menz.	2	60
Unalaschkensis, Bong.	2	61
ventricosa, *Griseb.*	2	65
villosa, L. (Tab. CLII.)	2	56
Geraniaceæ, *Juss.*	1	115
Geranium, *L'Hérit.*	1	115
albiflorum, *Hook.* (Tab. XL.)	1	116
Carolinianum, *L.*	1	116
cicutarium, L.	1	117
maculatum, *L.*	1	115
Gerardia, *L.*	2	104
aspera, Dougl.	2	104
longifolia, *Benth.*	2	104
purpurea, *L.*	2	104
Geum, *L.*	1	174
agrimonioides, Pursh,	1	186
album, Gmel.	1	175
Aleppicum, Jacq.	1	175
anemonoides, Willd.	1	176
calthifolium, Langsd.	1	177
Canadense, Jacq.	1	175
Canadense, Murr.	1	175
geniculatum? Mx.	1	175
glaciale, Adams.	1	175
macrophyllum, Willd.?	1	175
pubescens, *Pursh*,	1	175
rivale, *L.*	1	175
Rossii, DC.	1	176
rotundifolium, Langsd.	1	177
strictum, *Ait.*	1	175
triflorum, Pursh,	1	176
Virginianum, *L.*	1	175
Gilia, *Cav.*	2	74
capitata, *Hook.*	2	75
congesta, *Dougl.*	2	75
gracilis, Hook.	2	74
inconspicua, *Dougl.*	2	74
parviflora, Sm.	2	74
pharnaceoides, *Benth.* (Tab. CLXI.)	2	74
pulchella, *Dougl.*	2	74
pungens, Dougl.	2	75
Gillenia, *Mænch*,	1	173
trifoliolata, *Mænch*,	1	174
Glaux, *L.*	2	122
maritima, *L.*	2	122
Glyceria, *Br.*	2	247
aquatica, *Sm.*	2	247
arctica, *Hook.* (Tab. CCXXIX.)	2	248
Canadensis, *Trin.*	2	249
elongata, *Trin.*	2	248
fluitans, *Br.*	2	248
nervata, *Trin.*	2	248
obtusa, *Trin.*	2	249
pauciflora, *Presl*,	2	248
Glycine Apios, L.	1	161
helvola, Ell.	1	162
monoica, L.	1	161
umbellata, Willd.?	1	162
Glycyrrhiza, *L.*	1	138
lepidota, *Nutt.*	1	138
Gnaphalium, *Br.*	1	328
alpinum, DC.	1	329
alpinum, L.	1	329
decurrens, *Torr.*	1	328
dioicum, L.	1	330
dioicum, var. Mx.	1	330
luteo-album, *L.*	1	328
margaritaceum, *L.*	1	329
obtusifolium, Willd.	1	328
plantaginifolium, L.	1	330
polycephalum, *Mx.*	1	328
supinum, *L.*	1	329
sylvaticum, *L.*	1	328
uliginosum, *L.*	1	329
Goodyera, *Br.*	2	203
pubescens, *Lindl.*	2	204
repens, *Hook.*	2	203
Gramineæ, *Juss.*	2	233
Graphephorum, *Desv.*	2	241
melicoides, *Beauv.*	2	241
Gratiola, *L.*	2	100
Virginica, *L.*	2	100
Grindelia glutinosa, Menz.	2	25
inuloides, Desf.	2	25
inuloides, Ker,	2	25
squarrosa, Rich.	2	25
Grossularieæ, *DC.*	1	229
Guilandina dioica, L.	1	166
Gymnadenia, *Br.*	2	195

	VOL.	PAGE
? tridentata, *Lindl.*	2	195
GYMNANDRA, *Pall.*	2	102
borealis, Pall.	2	102
borealis, var. Pall.	2	102
dentata, Willd.	2	102
Gmelini, *Cham.*	2	102
gracilis, Willd.	2	102
minor, Willd.	2	102
ovata, Willd.	2	102
reniformis, Willd.	2	102
rubra, *Hook.* (TAB. CLXXII.)	2	103
Stelleri, *Cham.*	2	104
GYMNOCLADUS, *Lam.*	1	166
Canadensis, *Lam.*	1	167
GYMNOGRAMMA, *Desv.*	2	259
triangularis, *Kaulf.*	2	259
Gymnostichum Hystrix, Schreb.	2	256
Gyromia Virginica, Nutt.	2	179
Habenaria borealis, Cham.	2	198
blephariglottis, Hook.	2	199
bracteata, Br.	2	201
Chorisiana, Cham.	2	201
ciliaris, Br.	2	199
dilatata, Hook.	2	198
fimbriata, Br.	2	200
grandiflora, Torr.	2	200
herbiola, Br.	2	197
Hookeri, Torrey,	2	196
Huronensis, Spr.	2	198
hyperborea, Spr.	2	198
incisa, Spr.	2	200
lacera, Br.	2	200
macrophylla, Hook.	2	196
obtusata, Rich.	2	196
orbiculata, Hook.	2	196
orbiculata, Torr.	2	196
psychodes, Spr.	2	200
rotundifolia, Rich.	2	200
Schismareffiana, Cham.	2	197
spectabilis, Spr.	2	195
tridentata, Hook.	2	195
HALENIA, *Borkh.*	2	67
Brentoniana, *Griseb.* (TAB. CLVI. A.)	2	68
deflexa, *Mx.* (TAB. CLV.)	2	67
heterantha, *Griseb.* (TAB. CLVI. B.)	2	67
HALORAGEÆ, *Br.*	1	215
HAMAMELIDEÆ, *Br.*	1	274
HAMAMELIS, *L.*	1	274
Virginica, *L.*	1	275
Harpalyce racemosa, Don.	1	294
Hecatonia palustris, Lour.	1	15
HEDEOMA, *Pers.*	2	113
glabra, Nutt.	2	114
pulegioides, *Pers.*	2	113
Hedera quinquefolia, L.	1	114
HEDYOTIS, *Lam.*	1	285
angustifolia, Mx.	1	286
cærulea, *Hook.*	1	286
cærulea, β. Pursh.	1	286
ciliolata, *Hook.*	1	286
Linnæi, α. Mx.	1	286
Linnæi, β. Mx.	1	286
longifolia, *Hook.*	1	286
patens, Ell.	1	286
serpyllifolia, Mx.	1	286
Hedypnois autumnalis, Heds.	1	296
HEDYSARUM, *Jaum.*	1	155
acuminatum, Mx.	1	154
alpinum, Mx.	1	155
boreale, *Nutt.*	1	155
boreale? Rich.	1	155
bracteosum, Mx.	1	154
Canadense, L.	1	154
ciliare? Pursh,	1	154
cuspidatum, Willd.	1	154
Mackenzii, *Rich.*	1	155
nudiflorum, L.	1	155
pauciflorum, Nutt.	1	155
reticulatum, Muhl.	1	156
HELENIUM, *L.*	1	317
autumnale, *L.*	1	317
HELIATHEMUM, *Tourn.*	1	71
Canadense, *DC.*	1	72
HELIANTHUS, *L.*	1	312
atro-rubens, *L.*	1	312
decapetalus, *L.*	1	313
diffusus? Sims,	1	312
divaricatus, *L.*	1	312
frondosus, *L.*	1	312
giganteus, *L.*	1	312
gigas, Mx.	1	312
lenticularis, *Dougl.*	1	313
longifolius, *Hook.*	1	313
multiflorus, *L.*	1	313

	VOL.	PAGE
trachælifolius, *Willd.*	1	312
HELIOPSIS, *Pers.*	1	310
? balsamorhiza, *Hook.*	1	310
scabra, *Duv.*	1	310
terebinthacea, *Hook.*	1	310
HELIOTROPIUM, *L.*	2	80
Curassavicum, *L.*	2	81
Helleborus trifolius, L.	1	23
HELONIAS, *L.*	2	178
angustifolia, Nutt.	2	177
dioica, *Pursh*,	2	178
lutea, Ait.	2	178
paniculata, Nutt.	2	177
pumila, Jacq.	2	178
viridis, Bot. Mag.	2	178
HELOSCIADIUM, *Koch*,	1	260
Californicum, *Hook.*	1	260
HEPATICA, *DC.*	1	8
acutiloba, DC.	1	9
Americana, Ker,	1	9
Americana, Nutt.	1	8
triloba, *DC.*	1	8
triloba, Choix.	1	8
triloba, β. DC.	1	9
HERACLEUM, *L.*	1	269
Douglasii, *DC.*	1	270
lanatum, *Mx.*	1	269
Sphondylium, Cham.	1	270
HESPERIS, *L.*	1	59
arabidiflora, DC.	1	47
inodora, L.	1	59
matronalis, *L.*	1	59
Menziesii, *Hook.*	1	60
pygmæa, *Hook.* (TAB. XIX.)	1	60
scapigera ? DC.	1	47
HESPEROCORDON, *Lindl.*	2	185
hyacinthum, Lindl.	2	185
Lewisii, *Hook.* (TAB. CXCVIII. A.)	2	185
Heteranthera graminea, Vahl,	2	187
HETEROSTYLUS, *Hook.*	2	171
gramineus, *Hook.* (TAB. CLXXXV.)	2	171
HEUCHERA, *L.*	1	235
cylindrica, *Dougl.*	1	236
glabra, *Willd.* (TAB. LXXIX.)	1	236
longipetala, *Moc.*	1	237
Menziesii, *Hook.* (TAB. LXXX.)	1	237
micrantha, *Dougl.*	1	236
Richardsonii, *Br.*	1	237
villosa, *Mx.*	1	236
HIBISCUS, *L.*	1	107
Moscheutos, *L.*	1	107
palustris, *L.*	1	107
HIERACIUM, *L.*	1	297
albiflorum, *Hook.*	1	298
fasciculatum, *Pursh*,	1	299
gracile, *Hook.*	1	298
Gronovii, *L.*	1	298
macrophyllum, *Pursh*,	1	299
Marianum, Big.	1	298
molle, *Pursh*,	1	299
paniculatum, *L.*	1	299
prænanthoides, *Vill.*	1	299
pusillum, *Pursh*,	1	297
scabrum, Darl.	1	298
Scouleri, *Hook.*	1	298
sylvaticum, *Sm.*	1	299
umbellatum, *L.*	1	300
venosum, *L.*	1	297
virgatum, *Pursh*,	1	299
HIEROCHLOE, *Gmel.*	2	234
alpina, *R. et S.*	2	234
arctica, Presl,	2	234
borealis, *R. et S.*	2	234
fragrans, R. et S.	2	234
pauciflora, *Br.*	2	234
Hippophae Canadensis, Willd.	2	138
argentea, Pursh,	2	138
HIPPURIS, *L.*	1	217
lanceolata, Retz,	1	218
maritima, *Hell.*	1	218
montana, *Reich.*	1	218
tetraphylla, L.	1	218
vulgaris, *L.*	1	217
Holcus alpinus, Sw.	2	234
borealis, Willd.	2	234
fragrans, Willd.	2	234
monticola, Bigel.	2	234
odoratus, *L.*	2	234
HORDEUM, *L.*	2	256
jubatum, *Torr.*	2	256
pratense, *Huds.*	2	256
secalinum, Schreb.	2	256
HORKELIA, *Cham.*	1	196
congesta, *Hook.*	1	196

	VOL.	PAGE
HOSACKIA, *Benth.*	1	134
bicolor, *Dougl.*	1	134
decumbens, *Benth.*	1	134
parviflora, *Benth.*	1	134
unifoliata, *Hook.*	1	135
Houstonia Linnæi, *α.* Torr.	1	286
HUDSONIA, *L.*	1	73
ericoides, Rich.	1	73
tomentosa, *Nutt.*	1	73
HUMULUS, *L.*	2	142
Lupulus, *L.*	2	142
HUTCHINSIA, *Br.*	1	58
calycina, *Desv.* (TAB. XVII. B.)	1	58
HYDRASTIS, *L.*	1	9
Canadensis, *L.*	1	9
HYDROCHARIDEÆ, *Br.*	2	192
Hydrochloa Carolinensis, Beauv.	2	233
HYDROCOTYLE, *L.*	1	257
Americana, *L.*	1	257
vulgaris, *L.*	1	257
HYDROPELTIS, *Mx.*	1	31
purpurea, *Mx.*	1	32
HYDROPHYLLEÆ, *Br.*	2	78
HYDROPHYLLUM, *L.*	2	78
appendiculatum, *Benth.*	2	78
Canadense, *L.*	2	78
capitatum, *Dougl.*	2	78
lineare? Pursh,	2	79
Virginicum, *L.*	2	78
HYDROPYRUM, *Link*,	2	233
esculentum, *Link*,	2	233
? fluitans, *Kth.*	2	233
Hylas aphylla, Big.	1	216
HYMENONEMA, *Cass.*	1	300
? glaucum, *Hook.*	1	300
? laciniatum, *Hook.*	1	301
HYMENOPAPPUS, *L'Hérit.*	1	316
Douglasii, *Hook.*	1	316
filifolius, *Hook.*	1	317
scabiosæus, Dougl.	1	316
tenuifolius, Dougl.	1	317
Hyoseris Virginiensis, L.	1	301
HYPERICINEÆ, *Juss.*	1	109
HYPERICUM, *L.*	1	109
ascyroides, *Willd.*	1	109
campanulatum, Walt. ?	1	109
Canadense, *L.*	1	110
ellipticum, *Hook.*	1	110
emarginatum, Lam.	1	109
Kalmianum, *L.*	1	109
macrocarpum, Mx.	1	109
micranthum, *Chois.*	1	109
muticum, L.	1	110
parviflorum, Willd.	1	110
perforatum, *L.*	1	110
quinquenervium, *Walt.*	1	110
Scouleri, *Hook.*	1	111
Virginicum, *L.*	1	109
Hypopitys Europæa, Nutt.	2	48
lanuginosa, Nutt.	2	49
HYPOXIDEÆ, *Br.*	2	207
HYPOXIS, *L.*	2	207
erecta, *L.*	2	207
Hyssopus anisatus, Nutt.	2	115
discolor, Desf.	2	115
Fœniculum, Spr.	2	115
urticæfolius, Dougl.	2	115
Ictodes fœtida, Bigel.	2	169
ILEX, *L.*	1	121
Canadensis, Mx.	1	122
myrsinites, Pursh.	1	120
opaca, *Ait.*	1	121
IMPATIENS, *Riv.*	1	117
biflora, Walt.	1	117
fulva, *Nutt.*	1	117
noli tangere, Mx.	1	117
noli tangere, *β.* Mx.	1	117
pallida, *Nutt.*	1	117
IMPERATORIA, *L.*	1	269
Ostruthium, *L.*	1	269
Inula scabra, Pursh,	2	22
Ipomopsis elegans, Lindl.	2	74
inconspicua, Sm.	2	74
IRIDEÆ, *Juss.*	2	206
IRIS, *L.*	2	206
Caurina, *Herb.*	2	206
hexagona, Walt.	2	206
hæmatophylla, *Fisch.*	2	206
lacustris? Nutt.	2	206
Sibirica, *γ.* Ker,	2	206
sanguinea, R. et S.	2	206
tenax, *Dougl.*	2	206
tridentata, *Pursh*,	2	206
tripetala, Walt.	2	206

	VOL.	PAGE
versicolor, *L.*	2	206
Virginica, *L.*	2	206
ISOETES, *L.*	2	268
lacustris, *L.*	2	268
ISNARDIA, *L.*	1	214
alternifolia, *DC.*	1	214
palustris, *L.*	1	215
IVA, *L.*	1	309
axillaris, *Pursh*, (TAB. CVI.)	1	309
JASMINEÆ, *Juss.*	2	50
JUGLANDINEÆ, *DC.*	2	142
JUGLANS, *L.*	2	143
alba, Mx.	2	143
amara, Mx.	2	144
cathartica, Bigel,	2	143
cinerea, *L.*	2	143
squamosa, Mx.	2	143
JUNCAGINEÆ, *Rich.*	2	168
JUNCEÆ, *Juss.*	2	187
JUNCUS, *L.*	2	189
acutiflorus, *Ehrh.*	2	190
affinis, Br.	2	191
alpinus, Vill.	2	191
arcticus, *Willd.*	2	189
arcticus, Hook.	2	189
arcuatus, Hook.	2	188
Balticus, *Willd.*	2	189
bicornis, Mx.	2	191
biglumis, L.	2	192
bufonius, *L.*	2	191
bulbosus, L.	2	191
campestris, L.	2	188
campestris, Soland,	2	189
Canadensis ? Gay,	2	190
castaneus, *L.*	2	192
castaneus, Sm.	2	192
compressus, H.B.K.	2	189
compressus, β. Mey.	2	189
complanatus, Schk.	2	189
echinatus, Muhl.	2	190
effusus, *L.*	2	190
ensifolius, *Wikstr.*	2	191
falcatus, E. Mey.	2	191
filiformis, *L.*	2	190
fluitans, Mx.	2	191
fusco-ater, Schreb.	2	191
glaucus, Rich.	2	189

	VOL.	PAGE
globosus, Herb. Banks.	2	190
gracilis, E. Bot.	2	191
Hænkei, Mey.	2	189
Lehmanni, E. Mey.	2	192
macrostemum ? Gay.	2	190
Menziesii, *Br.*	2	192
Mertensianus, Bong.	2	191
nodosus, L. ?	2	190
nodosus, Torr.	2	190
paradoxus ? Mey.	2	190
parviflorus, Retz,	2	188
pelocarpus, Mey.	2	190
pilosus, L.	2	188
platycaulos, H.B.K.	2	189
polycephalus, *Mx.*	2	190
Pylæi, *De la Harp.*	2	190
Richardsonianus, *Sch.*	2	191
Roskowii, E. Mey.	2	190
spicatus, L.	2	188
subtilis, Mey.	2	191
tenuis, *Willd.*	2	191
triglumis, *L.*	2	192
uliginosus, *Sibth.*	2	191
JUNIPERUS, *L.*	2	165
communis, *L.*	2	165
excelsa, Dougl.	2	166
occidentalis, *Hook.*	2	166
prostrata, Pers.	2	166
repens, Nutt.?	2	166
Sabina, *L.*	2	166
Sabina, β. Willd.	2	166
Virginiana, L.	2	166
KALMIA, *L.*	2	41
angustifolia, *L.*	2	41
glauca, *Ait.*	2	41
latifolia, *L.*	2	41
Kobresia caricina, Willd.	2	228
scirpina, Willd.	2	228
KŒLERIA, *Pers.*	2	249
cristata, *Pers.*	2	249
Pennsylvanica, DC.	2	249
KÖNIGIA, *L.*	2	129
Islandica, *L.*	2	129
Krascheninnikovia ceratoides, Guild.	2	126
KRIGIA, *Willd.*	1	301
Virginica, *Willd.*	1	301
LABIATÆ, *Juss.*	2	111

	VOL.	PAGE
LACTUCA, *L.*	2	296
Canadensis, L,	2	293
elongata, *Willd.*	2	296
hirsuta, Muhl.	2	296
longifolia, Mx.	2	296
Lagotis glauca, Gært.	2	102
LAMIUM, *L.*	2	116
amplexicaule, *L.*	2	116
LAPSANA, *L.*	1	296
communis, *L.*	1	296
LARBRÆA, *St Hil.*	1	93
aquatica, St Hil.	1	93
uliginosa, *Hook.*	1	93
Larix Americana, Mx.	2	164
LASERPITIUM, *L.*	2	270
hirsutum, *Lam.*	2	270
terebinthaceum, Dougl.	2	266
LATHYRUS, *L.*	1	158
Californicus, Dougl.	1	158
decaphyllus, *Pursh*,	1	159
maritimus, Big.	1	158
myrtifolius, *Muhl.*	1	160
ochroleucus, *Hook.*	1	159
palustris, *L.*	1	161
pisiformis, *L.*	1	158
pisiformis, var. Rich.	1	159
stipulaceus, *Le Con.*	1	160
venosus, *Muhl.*	1	160
venosus, Sweet,	1	158
LAURINEÆ, *Juss.*	2	137
Laurus Benzoin, L.	2	137
pseudo-Benzoin, Mx.	2	137
regia, Dougl.	2	137
Sassafras, L.	2	137
LECHEA, *L.*	1	72
major, L.	1	72
major, Mx.	1	72
minor, *Pursh*,	1	73
minor, L.	1	72
villosa, *L.*	1	72
LEDUM, *L.*	2	44
latifolium, Ait.	2	44
palustre, L.	2	44
palustre, *Mx.*	2	44
LEERSIA, *L.*	2	233
oryzoides, *Sw.*	2	233
Virginica, *Willd.*	2	233
LEGUMINOSÆ, *Juss.*	1	128
LEIMANTHIUM, *Willd.*	2	177
hybridum, *Rœm.*	2	177
Nuttallii, *Hook.*	2	177
LEMNA, *L.*	2	169
minor, *L.*	2	169
polyrhiza, *L.*	2	169
trisulca, *L.*	2	169
LENTIBULARIEÆ, *Rich.*	2	118
LEONTICE, *L.*	1	29
thalictroides, *L.*	1	29
triphylla, Sm.	1	30
LEONTODON, *L.*	1	296
autumnale, L.	1	296
hirsutum, *Hook.*	1	296
palustre, *Sm.*	1	296
Taraxacum, *L.*	1	296
LEONURUS, *L.*	2	116
Cardiaca, *L.*	2	116
LEPIDIUM, *L.*	1	68
calycinum, Steph.	1	58
Iberis, Schk.	1	69
Menziesii, *DC.*	1	68
ruderale, *L.*	1	68
Virginicum, *L.*	1	68
LEPTANTHUS, *Mx.*	2	187
gramineus, *Mx.*	2	187
LEPTARRHÆNA, *Br.*	1	256
amplexifolia, Ser.	1	256
pyrolifolia, *Br.* (TAB. LXXXIX.)	1	256
LESPEDEZA, *Mx.*	1	156
polystachya, *Mx.*	1	156
prostrata, *Pursh*,	1	156
reticulata, *Pers.*	1	156
sessiliflora, Mx.	1	156
LEWISIA, *Pursh*,	1	223
rediviva, *Pursh*,	1	223
LIATRIS, *Schreb.*	1	305
intermedia, Lindl.	1	306
punctata, *Hook.* (TAB. CV.)	1	306
scariosa, *Willd.*	1	305
squarrosa, *Willd.*	1	305
squarrulosa, *Mx.*	1	306
LIGUSTICUM, *Koch*,	1	265
actæifolium, *Mx.*	1	265
Gmelini, Cham.	1	266
Scoticum, *L.*	1	265

	VOL.	PAGE
LIGUSTRUM, *L.*	2	50
vulgare, *L.*	2	50
LILIACEÆ, *Juss.*	2	181
LILIUM, *L.*	2	181
affine, Sch.	2	181
Canadense, *L.*	2	181
Carolinianum, Pursh ?	2	181
Kamtschatcense, L.	2	181
Philadelphicum, *L.*	2	181
pudicum, Pursh,	2	182
quadrifoliatum, Mey.	2	181
superbum, *L.*	2	181
Limnia perfoliata, Haw.	1	225
LIMNANTHEMUM, *Gmel.*	2	71
lacunosum, *Mx.*	2	71
Limnetis cynosuroides, Rich.	2	242
polystachya, Pursh,	2	242
Limodorum boreale, Willd.	2	195
pulchellum, Curt.	2	202
tuberosum, Mx.	2	202
LIMOSELLA, *L.*	2	100
aquatica, *L.*	2	100
subulata, Eat.	2	100
LINARIA, *Tourn.*	2	94
Canadensis, *Spreng.*	2	94
vulgaris, *Mænch*,	2	94
LINEÆ, *DC.*	1	105
LINNÆA, *Gron.*	1	285
borealis, *L.*	1	285
LINUM, *L.*	1	105
Anglicum, DC.	1	106
perenne, *L.*	1	106
rigidum, *Pursh*,	1	105
Sibiricum, DC.	1	106
striatum, Nutt.	1	105
Virginianum, *L.*	1	106
LIPARIS, *Rich.*	2	193
liliifolia, *Rich.*	2	193
Loeselii, *Rich.*	2	194
Loeselii, Spreng.	2	194
Liquidambar aspleniifolia, L.	2	160
LISTERA, *Br.*	2	204
convallarioides, *Nutt.* (TAB. CCV.)	2	204
cordata, *Hook.*	2	204
Eschscholtziana, Cham.	2	204
LITHOSPERMUM, *L.*	2	86
angustifolium, *Mx.*	2	89
canescens, *Lehm.*	2	88
corymbosum, *Lehm.*	2	87
denticulatum, H. et A.	2	87
denticulatum, *Lehm.*	2	88
Drummondii, *Lehm.*	2	86
hirtum, *Lehm.*	2	88
incisum, *Lehm.* (TAB. CLXV.)	2	89
latifolium, Muhl.	2	88
longiflorum, Spreng.	2	87
lycopsoides, *Lehm.*	2	89
Mandanense, *Spreng.* (TAB. CLXVI.)	2	88
marginatum, *Spreng.*	2	86
maritimum, *Lehm.*	2	86
officinale, *L.*	2	88
paniculatum, *Lehm.*	2	87
ruderale, *Dougl.*	2	89
sericeum, *Lehm.*	2	88
Virginianum, Moris.	2	88
Lloydea serotina, Salisb.	2	183
LOASEÆ, *Juss.*	1	221
LOBELIA, *L.*	2	29
cardinalis, *L.*	2	30
Claytoniana, *Mx.*	2	30
Dortmanna, *L.*	2	29
inflata, *L.*	2	30
Kalmii, *L.*	2	30
paludosa, Muhl.	2	30
paludosa, Nutt.	2	29
spicata, Lam.	2	30
syphilitica, *L.*	2	30
Lomaria crenata, Presl.	2	263
spicant, Desv.	2	263
LONICERA, *L.*	1	281
Canadensis, R. et S.	1	283
cærulea, *L.*	1	283
ciliata, *Muhl.*	1	283
ciliosa, *DC.*	1	282
dioica, L.	1	282
Douglasii, *DC.*	1	282
hirsuta, *Eat.*	1	282
involucrata, *Herb. Banks.*	1	284
? microphylla, *Hook.*	1	283
oblongifolia, *Hook*, (TAB. C.)	1	284
occidentalis, *Hook.*	1	282
parviflora, *Lam.*	1	282
pubescens, Sw.	1	282
villosa, *Muhl.*	1	283

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velutina, DC.	1	283
LOPHANTHUS, *Benth.*	2	115
anisatus, *Benth.*	2	115
urticæfolius, *Benth.*	2	115
Lotus incanus, Dougl.	1	134
pinnatus, Hook.	1	134
Ludwigia alternifolia, L.	1	215
apetala, Walt.	1	215
macrocarpa, Mx.	1	215
nitida, Mx.	1	215
Lupinaster macrocephalus, Pursh,	1	132
LUPINUS, *L.*	1	162
albicaulis, *Dougl.*	1	165
arbustus, *Dougl.*	1	164
argenteus, *Pursh*,	1	164
aridus, *Dougl.*	1	165
bicolor, *Lindl.*	1	162
laxiflorus, *Dougl.*	1	164
lepidus, *Dougl.*	1	163
leucophyllus, *Dougl.*	1	165
littoralis, *Dougl.*	1	164
micranthus, *Dougl.*	1	162
minimus, *Dougl.*	1	163
Nootkatensis, *Donn*,	1	163
ornatus, *Dougl.*	1	164
perennis, *L.*	1	163
polyphyllus, *Lindl.*	1	164
plumosus, *Dougl.*	1	165
pusillus, *Pursh*,	1	162
regius, *Rud.*	1	164
Sabinii, *Dougl.*	1	166
sericeus, *Pursh*,	1	164
sulphureus, *Dougl.*	1	166
tenellus, *Dougl.*	1	164
LUZULA, *DC.*	2	187
arcuata, *Hook.*	2	189
campestris, *Desv.*	2	188
campestris, Br.	2	188
campestris ? Bong.	2	188
comosa, *Meyer*,	2	188
congesta, Lej.	2	188
hyperborea, *Br.*	2	188
melanocarpa, *Desv.*	2	187
pallescens, Wahl.	2	188
parviflora, Desv.	2	188
pilosa, *Willd.*	2	188
spicata, *Desv.*	2	188

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LYCHNIS, *L.*	1	91
alpina, *L.*	1	91
apetala, *L.*	1	91
apetala, β. DC.	1	91
brachypetala, Hort. Berol.	1	91
Githago, *Lam.*	1	92
pauciflora, Fisch.	1	91
uniflora, Led.	1	91
LYCOPODINEÆ, *Sw.*	2	266
LYCOPODIUM, *L.*	2	266
alpinum, *L.*	2	268
annotinum, *L.*	2	266
aristatum, γ. H. et Gr.	2	267
bryophyllum ? Hænke,	2	266
clavatum, *L.*	2	267
clavatum, Mx.	2	267
complanatum, *L.*	2	267
dendroideum, *Mx.*	2	266
Douglasii, *Hook.*	2	268
inundatum, *L.*	2	267
lucidulum, *Mx.*	2	266
ovalifolium, H. et G.	2	268
recurvum, Willd.	2	266
reflexum, Sw.	2	266
rupestre, *L.*	2	267
sabinæfolium, *Willd.* (TAB. CCXXXVIII.)	2	266
selaginoides, *L.*	2	267
Selago, *L.*	2	266
struthioloides, Presl,	2	267
tristachyon, Nutt.	2	267
tristachyon, Pursh,	2	267
LYCOPUS, *L.*	2	111
Americanus, Muhl.	2	111
angustifolius, Nutt.	2	111
bracteatus, Muhl.	2	111
Europæus, Mx.	2	111
exaltatus, Ell.	2	111
longiflorus, Rafin.	2	111
longifolius, Rafin.	2	111
macrophyllus, *Benth.*	2	111
obtusifolius, *Mx.*	2	111
Pennsylvanicus, Muhl.	2	111
pumilus, Vahl,	2	111
sinuatus, Benth.	2	111
sinuatus, Ell.	2	111
uniflorus, Mx.	2	111

	VOL.	PAGE
Virginicus, *Pursh*,	2	111
Virginicus, Pursh,	2	111
vulgaris, Nutt.	2	111
LYGODESMIA, *Don*,	1	295
juncea, *Don*, (TAB. CIII.)	1	295
minor, *Hook.* (TAB. CIII. A.)	1	295
Lyonia paniculata, Nutt.	2	39
LYSIMACHIA, *L.*	2	122
bulbifera, Curt,	2	128
capitata, Pursh,	2	122
ciliata, *L.*	2	122
hybrida, *Mx.*	2	122
racemosa, Mx.	2	122
revoluta, *Torr.*	2	122
stricta, *Ait.*	2	122
thyrsiflora, *L.*	2	122
LYTHRARIEÆ, *Juss.*	1	218
LYTHRUM, *L.*	1	218
alatum, *Pursh*,	1	219
Kennedyanum, H. et K.	1	219
Salicaria, *L.*	1	219
verticillatum, L.	1	219
Vulneraria, Schr.	1	219
MACROPODIUM, *Br.*	1	43
laciniatum, *Hook.*	1	43
MADIA, *Molina*,	2	23
elegans, Don,	2	24
glomerata, *Hook.*	2	24
mellosa, *Mol.*	2	24
sativa, Mol.	2	24
viscosa, *Cav.*	2	24
Mahonia Aquifolium, Nutt.	1	29
fascicularis, DC.	1	28
glumosa, DC.	1	29
nervosa, Nutt.	1	29
Maianthemum Canadense, Desf.	2	175
Malaxis brachypoda, Gray,	2	193
Correana, Benth.	2	194
diphyllos, Cham.	2	193
diphyllos, Lindl.	2	193
liliifolia, Sw.	2	194
Loeselii, Sw.	2	194
monophyllos, Willd.	2	194
monophyllos, Lindl.	2	193
ophioglossoides, Lindl.	2	193
unifolia, Mx.	2	193
MALVA, *L.*	1	106
coccinea, Fras.	1	108
hederacea, *Dougl.*	1	107
Munroana, *Dougl.*	1	106
rivularis, *Dougl.*	1	107
rotundifolia, *L.*	1	106
MALVACEÆ, *Br.*	1	106
MARSILEACEÆ, *Br.*	2	268
MARSILEA, *L.*	2	268
vestita, *H. et Gr.*	2	268
MARRUBIUM, *L.*	2	117
vulgare, *L.*	2	117
MEDEOLA, *L.*	2	179
Virginica, *L.*	2	179
MEDICAGO, *L.*	1	129
lupulina, *L.*	1	129
MELAMPYRUM, *L.*	2	106
Americanum, Mx.	2	106
lineare, Lam.	2	106
sylvaticum, *L.*	2	106
MELANTHACEÆ, *Br.*	2	177
Melanthium glaucum, Nutt.	2	178
glaucum ? Nutt.	2	177
hybridum, Walt.	2	177
racemosum, Mx.	2	177
Melica Fischeri, Spr.	2	242
MELILOTUS, *Tourn.*	1	129
officinalis, *DC.*	1	130
MELISSA, *L.*	2	114
Clinopodium, *Benth.*	2	114
pulegioides, L.	2	113
MENISPERMACEÆ, *Juss.*	1	28
MENISPERMUM, *L.*	1	28
Canadense, *L.*	1	28
MENTHA, *L.*	2	111
borealis, Mx.	2	111
Canadensis, L.	2	111
Canadensis, *Benth.*	2	111
Mentzelia albicaulis, Dougl.	1	222
MENYANTHES, *L.*	2	70
trachysperma, Mx.	2	71
trifoliata, *L.*	2	70
MENZIESIA, *Sm.*	2	39
Aleutica, *Cham.*	2	40
cærulea, *Sw.*	2	39
empetriformis, *Sm.*	2	40
empetriformis, Grah.	2	40
ferruginea, *Sm.*	2	40

	VOL.	PAGE
glanduliflora, *Hook.*	2	40
globularis, *Salisb.* (TAB. CXXXII.)	2	41
Grahamii, *Hook.*	2	40
intermedia, *Hook.*	2	40
phylicifolia, Fisch.	2	40
Smithii, Mx.	2	41
Stelleriana, Fisch.	2	37
MERCKIA, *Fisch.*	1	102
physodes, *Fisch.*	1	103
Mespilus acerifolia, Poir.	1	201
arbutifolia, L.	1	204
arbutifolia, β. Mx.	1	204
Canadensis, L.	1	202
Canadensis, α. Mx.	1	202
Canadensis, β.? Mx.	1	202
Canadensis, γ. Mx.	1	203
cuneifolia, Ehrh.	1	201
glabra, Nutt.	1	202
lucida, Ehrh.	1	200
Michauxii, Pers.	1	202
MICROMERIA, *Benth.*	2	113
Chamissonis, Benth.	2	114
Douglasii, *Benth.*	2	114
glabella, *Benth.*	2	113
Micropetalum gramineum, Pers.	1	94
lanceolatum, Pers.	1	95
MICROSTYLIS, *Nutt.*	2	193
brachypoda, Gray,	2	193
diphyllos, *Lindl.*	2	193
monophyllos, *Lindl.*	2	193
ophioglossoides, *Lindl.*	2	193
MIKANIA, *Willd.*	1	305
scandens, *Willd.*	1	305
MILIUM, *L.*	2	235
effusum, *L.*	2	235
membranaceum, Spr.	2	237
pungens, Torr.	2	236
MIMULUS, *L.*	2	99
alsinoides, *Benth.*	2	100
floribundus, *Lindl.*	2	99
guttatus, *DC.*	2	99
Lewisii, Pursh,	2	100
luteus, Pursh,	2	99
moschatus, *Dougl.*	2	99
primuloides, *Benth.*	2	100
propinquus, *Lindl.*	2	99
pedunculatis, Dougl.	2	99
ringens, *L.*	2	100
roseus, *Lindl.*	2	100
Scouleri, *Hook.*	2	100
MITCHELLA, *L.*	1	287
repens, *L.*	1	287
MITELLA, *Tourn.*	1	240
cordifolia, Lam.	1	240
diphylla, *L.*	1	240
grandiflora, Pursh,	1	239
nuda, *L.*	1	240
parviflora, Dougl.	1	241
pentandra, *Hook.*	1	241
prostrata, Mx.	1	241
reniformis, *Lam.*	1	240
trifida, *Grah.* (TAB. LXXXII.)	1	241
MOLLUGO, *Ser.*	1	92
verticillata, *L.*	1	92
MOMORDICA, *L.*	1	220
? echinata, *Hook.*	1	220
MONARDA, *L.*	2	112
allophylla, *Mx.*	2	112
altissima, *Willd.*	2	112
Clinopodium, L.	2	112
coccinea, Mx.	2	112
didyma, *L.*	2	112
fistulosa, *L.*	2	112
fistulosa, var. Bot. Mag. ?	2	112
glabra, Lam.	2	112
Kalmiana, Pursh,	2	112
menthæfolia, Grah.	2	112
mollis, L.	2	112
oblongata, Ait.	2	112
purpurea, Lam.	2	112
purpurea, Pursh,	2	112
rugosa, Ait.	2	112
MONARDELLA, *Benth.*	2	113
odoratissima, *Benth.*	2	113
MONOCOTYLEDONEÆ, *Juss.*	2	167
MONOTROPEÆ, *Nutt.*	2	44
MONOTROPA, *L.*	2	48
Hypopithys, *L.*	2	48
lanuginosa, *Mx.*	2	49
procera, Torr.	2	48
uniflora, *L.*	2	49
MUHLENBERGIA, *Schreb.*	2	237
aristata, *Pers.*	2	237
Brachyclytrum, Trin.	2	237

	VOL.	PAGE
Cinna, *Trin.*	2	237
erecta, Schreb.	2	237
glomerata, *Trin.*	2	237
pendula, *Bong.*	2	237
Myagrum argenteum, Pursh,	1	48
natans, Patr.	1	39
MYGINDA, *Jacq.*	1	120
myrtifolia, *Nutt.* (TAB. XLI.)	1	120
MYOSOTIS, *L.*	2	86
alpestris, *Schmidt*,	2	86
cæspitosa, Schult.	2	81
Chorisiana, *Cham.*	2	84
deflexa, Wahl.	2	84
diffusa, Dougl.	2	83
flaccida, *Dougl.*	2	82
fulva, *Hook.*	2	83
glomerata, *Nutt.* (TAB. CLXII.)	2	82
Lappula, L.	2	84
leucophæa, *Dougl.* (TAB. CLXIII.)	2	82
lingulata, Lehm.	2	81
lithospermifolia, Horn.	2	86
palustris, *Lehm.*	2	81
rupicola, E. Bot.	2	81
squarrosa, Bieberst.	2	84
suaveolens, Waldst.	2	80
versicolor, *Pers.*	2	81
Virginica, *L.*	2	83
MYRICEÆ, *Rich.*	2	160
MYRICA, *L.*	2	160
Californica, *Cham.*	2	160
Gale, *L.*	2	160
Xalapensis, H. et K.	2	160
MYRIOPHYLLUM, *Vaill.*	1	216
nudum, Lap.	1	216
spicatum, L.	1	216
tenellum, *Big.*	1	216
verticillatum, *L.*	1	216
Myrrhis Canadensis, Mor.	1	262
Claytoni, Mx.	1	272
Claytoni, Spr.	1	271
longistylis, Torr.	1	271
NABALUS, *Cass.*	1	293
alatus, *Hook.* (TAB. CII.)	1	294
albus, *Hook.*	1	294
altissimus, *Hook.*	1	294
cordatus, *Hook.*	1	294
racemosus, *Hook.*	1	294
serpentarius, *Hook.*	1	294
NAIADES, *Juss.*	2	170
NAIAS, *L.*	2	170
Canadensis, *Mx.* (TAB. CLXXXIV.)	2	170
NARDOSMIA, *Cass.*	1	307
corymbosa, *Hook.*	1	307
frigida, *Hook.*	1	307
palmata, *Hook.*	1	308
sagittata, *Hook.*	1	307
Narthecium glutinosum, Mx.	2	179
NASTURTIUM, *Br.*	1	38
amphibium, *Br.*	1	39
natans, *DC.*	1	39
officinale, *Br.*	1	39
palustre, *DC.*	1	39
terrestre, Br.	1	39
NAVARETIA, *R. et P.*	2	75
intertexta, *Benth.*	2	75
pungens, *Benth.*	2	75
Nectarobothrium serotinum, Ledeb.	2	183
NEGUNDO, *Mænch*,	1	114
fraxinifolium, *Nutt.*	1	114
NEMOPANTHES, *DC.*	1	122
Canadensis, *DC.*	1	122
NEMOPHILA, *Bart.*	2	79
parviflora, *Benth.*	2	79
pedunculata, *Dougl.*	2	79
Neottia cernua, Willd.	2	202
pubescens, Willd.	2	204
repens, Sw.	2	203
tortilis, Pursh,	2	203
NEPETA, *L.*	2	115
Cataria, *L.*	2	115
Nephrodium asplenioides, Mx.	2	202
bulbiferum, Mx.	2	260
Dryopteris, Mx.	2	259
Filix fœmina, Mx.	2	262
lanosum, Mx.	2	264
punctilobum, Mx.	2	264
rufidulum, Mx.	2	259
tenue, Mx.	2	260
thelypteroides, Mx.	2	260
Nesæa verticillata, H. et K.	1	219
Neuroloma arabidiflorum, DC.	1	47
nudicaule, DC.	1	47
scapigerum? DC.	1	47
NICOTIANA, *L.*	2	91

	VOL.	PAGE
multivalvis, *Lindl.*	2	91
nana, *Lindl.*	2	91
quadrivalvis, *Nutt.*	2	91
NUPHAR, *Salisb.*	1	32
advena, *Ait.*	1	33
Kalmiana, *Ait.*	1	32
lutea, *Sm.*	1	32
lutea, β. Mx.	1	32
NYCTAGINEÆ, *Juss.*	2	124
NYMPHÆA, *L.*	1	32
advena, Ait.	1	33
alba, Mx.	1	32
minor, *DC.*	1	32
odorata, *Ait.*	1	32
odorata, β. Pursh,	1	32
NYMPHÆACEÆ, *DC.*	1	32
ŒNOTHERA, *L.*	1	209
albicaulis, *Frae.*	1	210
biennis, *L.*	1	209
Boothii, *Dougl.*	1	213
Canadensis, Gold.	1	212
chrysantha, Mx.	1	212
contorta, *Dougl.*	1	214
decumbens, *Dougl.*	1	211
fruticosa, *L.*	1	212
leucocarpa, *Hook.*	1	210
Lindleyii, *Dougl.*	1	211
muricata, Murr.	1	209
pallida, *Lindl.*	1	210
pumila, *L.*	1	212
purpurea, *Curt.*	1	211
pusilla, Mx.	1	212
pygmæa, *Dougl.*	1	213
quadrivulnera, *Dougl.*	1	213
riparia, *Nutt.*	1	212
Romanzovii, *Ledeb.*	1	212
spiralis, *Hook.*	1	213
viminea, *Dougl.*	1	211
viridescens, *Hook.*	1	214
OMALANTHUS, *Less.*	1	320
camphoratus, *Less.*	1	321
OMPHALODES, *Juss.*	2	86
linifolia, *Mœnch*,	2	86
ONOCLEA, *L.*	2	262
nodulosa, Schkh.	2	262
obtusilobata, Schkh.	2	262
sensibilis, *L.*	2	262

	VOL.	PAGE
Struthiopteris, Schkh.	2	262
Ophrys æstivalis, *Mx.*	2	203
cordata, L.	2	204
liliifolia, L.	2	204
Loeselii, L.	2	194
monophyllos, L.	2	193
OPLISMENUS, *Kth.*	2	236
Crus galli, *Kth.*	2	236
muricatus, Kth.	2	236
ORCHIDEÆ, *Juss.*	2	193
ORCHIS, *L.*	2	195
acuminata, Hort. Gor.	2	195
agastachys, Fisch.	2	198
aristata, *Fisch.*	2	195
blephariglottis, Ell.	2	199
blephariglottis, Willd.	2	199
ciliaris, L.	2	199
clavellata, Mx.	2	195
dilatata, Pursh,	2	198
dolichorhiza, Fisch.	2	197
fuscescens, Pursh,	2	197
grandiflora, Big.	2	200
gracilis, Fisch.	2	195
herbiola, Pursh,	2	197
humilis, Mx.	2	195
Huronensis, Nutt.	2	198
hyperborea, L.	2	198
incisa, Willd.	2	200
Königii, Retz,	2	197
lacera, Pursh,	2	200
latifolia, L. ?	2	195
obtusata, Pursh,	2	196
orbiculata, Pursh,	2	196
rotundifolia, Pursh,	2	200
psychodes, *L.*	2	200
scutellata ? Nutt.	2	197
spectabilis, *L.*	2	195
tipuloides, L.	2	195
tridentata, Willd.	2	195
Virginiana, L.	2	193
OREAS, *Cham.*	1	67
involucrata, *Cham.*	1	67
Ornithogalum bivalve, *L.*	2	198
OROBANCHEÆ, *Juss.*	2	91
OROBANCHE, *L.*	2	91
biflora, *Nutt.*	2	93
comosa, *Hook.* (TAB. CLXIX.)	2	92

	VOL.	PAGE
fasciculata, *Nutt.* (TAB. CLXX.)	2	93
glabra, *Hook.* (TAB. CLXVII.)	2	91
Ludoviciana, *Nutt.*	2	92
tuberosa, *Hook.* (TAB. CLXVIII.)	2	92
uniflora, L.	2	93
Virginiana, L.	2	93
ORONTIUM, *L.*	2	168
aquaticum, *L.*	2	168
ORTHOCARPUS, *Nutt.*	2	104
bracteosus, *Benth.*	2	104
hispidus, *Benth.*	2	104
strictus, *Hook.* (TAB. CLXXIII.)	2	104
tenuifolius, *Benth.*	2	105
ORYZOPSIS, *Rich.*	2	236
asperifolia, *Rich.*	2	236
parviflora, *Nutt.*	2	236
OSMORHIZA, *Rafin.*	1	271
brevistylis, *DC.* (TAB. XCVII.)	1	272
longistylis, *DC.* (TAB. XCVI.)	1	271
OSMUNDA, *L.*	2	265
alata, Hook.	2	265
cinnamomea, *L.*	2	265
Claytoniana ? Willd.	2	265
interrupta, *Mx.*	2	265
regalis, Mx.	2	265
regalis, β. L.	2	265
spectabilis, *Willd.*	2	265
Struthiopteris, L.	2	262
OSTRYA, *Michel.*	2	160
Virginica, *Willd.*	2	160
OXALIDEÆ, *DC.*	1	117
OXALIS, *L.*	1	117
Acetosella, *L.*	1	118
corniculata, *L.*	1	117
macrophylla, Dougl.	1	118
stricta, *L.*	1	118
trilliifolia, *Dougl.*	1	118
OXYBAPHUS, *L'Hérit.*	2	124
hirsutus, *Pursh*,	2	124
Oxycoccos macrocarpus, Pursh,	2	34
palustris, α. Pers.	2	34
vulgaris, Pursh,	2	34
OXYRIA, *Br.*	2	129
reniformis, *Hook.*	2	129
OXYTROPIS, *DC.*	1	145
arctica, *Br.*	1	146
argentata, *Pursh*,	1	146
borealis, *DC.*	1	145
campestris, *DC.*	1	147
deflexa, *DC.*	1	148
foliolosa, *Hook.*	1	146
Lamberti, *Pursh*,	1	147
nigrescens, *Fisch.*	1	147
oxyphylla ? Rich.	1	148
splendens, *Dougl.*	1	147
sulphurea, *Fisch.*	1	147
Uralensis, *DC.*	1	145
Uralensis, β. Un. It.	1	146
PÆONIA, *L.*	1	27
Brownii, *Dougl.*	1	27
PANAX, *L.*	1	273
horridum, *Sm.* (TAB. XCVIII.)	1	273
pusillum, Sims,	1	273
quinquefolium, *L.*	1	273
trifolium, *L.*	1	273
PANICUM, *L.*	2	235
capillare, *L.*	2	235
clandestinum, *L.*	2	235
Crus galli, L.	2	236
Crus galli, β. Ell.	2	236
depauperatum, Muhl.	2	235
glaucum, L.	2	236
hispidum, Muhl.	2	236
involutum, Torr.	2	235
junceum, Trin.	2	235
latifolium, *L.*	2	235
latifolium, β. Pursh,	2	235
muricatum, Mx.	2	235
nitidum, *Lam.*	2	235
pruinosum, Bernh.	2	235
rectum, *R. et S.*	2	235
strictum, Pursh,	2	235
Walteri, Pursh,	2	236
virgatum, *L.*	2	235
viscidum, *Ell.*	2	236
xanthophysum, *Gray*,	2	235
PAPAVERACEÆ, *Juss.*	1	34
PAPAVER, *L.*	1	34
nudicaule, *L.*	1	34
PARNASSIA, *L.*	1	82
Caroliniana, *Mx.*	1	83
fimbriata, *Kön.*	1	84
Kotzebuei, *Cham.* (TAB. XXVIII.)	1	83
palustris, *L.*	1	82

	VOL.	PAGE
palustris, β. Wahl. ? . .	1	82
parviflora,* *DC.* (Tab. XXVII. B.)	1	82
Paronychia, *Juss.* . .	1	226
sessiliflora, *Nutt.* (Tab. LXXV.)	1	226
Paronychieæ, *St Hil.* . .	1	226
Parrya, *Br.* . .	1	46
arctica, *Br.* . .	1	47
macrocarpa, *Br.* (Tab. XV.) .	1	47
Pastinaca, *L.* . .	1	269
fæniculacea, Spr. . .	1	268
sativa, *L.* . .	1	269
triquinata, Spr. . .	1	267
Patrinia, *Juss.* . .	1	290
ceratophylla, *Hook.* . .	1	290
Pedicularis, *L.* . .	2	106
alata, Pursh ? . .	2	110
arctica, Br. . .	2	109
bracteosa, *Benth.* . .	2	110
Canadensis, *L.* . .	2	108
capitatá, *Stev.* . .	2	106
Chamissonis, *Stev.* . .	2	107
contorta, *Benth.* . .	2	108
densiflora, *Benth.* (in note) .	2	110
euphrasioides, *Steph.* .	2	109
flammea, *L.* . .	2	110
gladiata, Mx. . .	2	108
Groenlandica, *Retz*, . .	2	108
hirsuta, *L.* . .	2	109
hirsuta, Rich. * . .	2	109
Labradorica, L. . .	2	109
lanata, W. et A. . .	2	109
lanceolata, *Pursh*, . .	2	107
Langsdorffii, *Fisch.* . .	2	109
Lapponica, *L.* . .	2	108
macrodontis, *Rich.* . .	2	107
nasuta, *Bieb.* . .	2	109
Nelsonii, *Br.* . .	2	106
ornithorhynchos, *Benth.* .	2	108
pallida, Nutt. . .	2	107
palustris, *L.* . .	2	107
palustris, Hook. . .	2	107
purpurascens, Spreng. .	2	109
racemosa, *Dougl.* . .	2	108
ramosa, Wormsk. . .	2	109
Sudetica, *Willd.* . .	2	109
surrecta, *Benth.* . .	2	107
versicolor, *Wahl.* . .	2	110
verticillata, *Stev.* . .	2	107
verticillata, Pursh, . .	2	106
Virginica, Poir. . .	2	107
Wlassoviana, *Stev.* . .	2	107
Pentstemon, *L'Hérit.* . .	2	95
acuminatus, *Lindl.* . .	2	97
attenuatus, *Dougl.* . .	2	97
confertus, *Lindl.* . .	2	96
densatus, *Dougl.* . .	2	95
diffusus, *Dougl.* . .	2	95
Douglasii, *Hook.* . .	2	98
frutescens, *Lamb.* . .	2	98
Gairdneri, *Hook.* . .	2	99
glandulosus, *Lindl.* . .	2	95
glaucus, *Grah.* . .	2	95
gracilis, *Nutt.* . . .	2	97
gracilis, Bot. Mag. . .	2	95
Menziesii, *Pursh*, . .	2	98
nitidus, Dougl. . .	2	97
ovatus, *Dougl.* . .	2	96
procerus, *Dougl.* . .	2	96
pruinosus, *Dougl.* . .	2	96
pubescens, *Ait.* . .	2	97
Richardsoni, *Dougl.* . .	2	96
Scouleri, *Dougl.* . .	2	96
serrulatus, *Menz.* . .	2	95
speciosus, *Dougl.* . .	2	98
Tolmiei, *Hook.* . .	2	98
triphyllus, *Dougl.* . .	2	96
venustus, *Dougl.* . .	2	95
Penthorium, *L.* . .	1	228
sedoides, *L.* . . .	1	229
Peristylus, *Lindl.* . .	2	201
bracteatus, *Lindl.* . .	2	201
Chorisianus, *Lindl.* . .	2	201
Petalostemum, *Mx.* . .	1	137
candidum, *Mx.* . .	1	137
ornatum, *Dougl.* . .	1	138
violaceum, *Mx.* . .	1	137
Peucedanum Ostruthium, Koch,	1	269
Phaca, *L.* . . .	1	140
aboriginorum, *Hook.* (Tab. LVI.)	1	143
alpina, *L.* . . .	1	140
astragalina, *DC.* . .	1	145
bisulcata, *Hook.* . .	1	145
? cæspitosa, *Nutt.* (Tab. LV.)	1	143

* Reference to Plate omitted in the Description.

	VOL.	PAGE
campestris, Wahl.	1	147
collina, *Dougl.*	1	141
elegans, *Hook.*	1	144
elongata, *Hook.*	1	140
flexuosa, *Dougl.*	1	141
frigida, *L.*	1	140
glabriuscula, *Hook.*	1	144
nigrescens, *Hook.*	1	143
pectinata, *Hook.* (Tab. LIV.)	1	141
podocarpa, *Hook.*	1	142
Phacelia, *Mx.*	2	80
furcata, Dougl.	2	75
hastata, *Dougl.*	2	80
heterophylla, *Pursh*,	2	80
ramosissima, *Dougl.*	2	80
Phalaris, *L.*	2	234
Americana, Ell.	2	234
arundinacea, *L.*	2	234
Caroliniana, Walt.	2	234
Phalangium esculentum, Nutt.	2	186
Quamash, Pursh,	2	186
Phaseolus, *L.*	1	161
helvolus, *L.*	1	162
Philadelpheæ, *Don*,	1	219
Philadelphus, *L.*	1	219
Lewisii, *Pursh*,	1	220
Phippsia, *Br.*	2	238
algida, *Br.*	2	238
algida, β. Kth.	2	238
monandra, *Trin.*	2	238
Phleum, *L.*	2	234
alpinum, *L.*	2	234
commutatum, Gaud.	2	234
pratense, *L.*	2	234
Phlox, *L.*	2	72
divaricata, *L.*	2	72
Douglasii, *Hook.* (Tab. CLVIII.)	2	73
Hoodii, *Rich.*	2	73
Hookeri, *Dougl.* (Tab. CLIX.)	2	73
humilis, Dougl.	2	72
maculata, *Jacq.*	2	72
paniculata, Ait.	2	72
Richardsoni, *Hook.* (Tab. CLX.)	2	73
Sabini, Dougl.	2	72
Sibirica, *L.*	2	73
speciosa, *Lindl.*	2	72
Phragmites, *Trin.*	2	241
communis, *Trin.*	2	241
Phryma, *L.*	2	118
leptostachya, *L.*	2	118
Phyllospadix, *Hook.*	2	171
Scouleri, *Hook.* (Tab. CLXXXVI.)	2	171
Physalis, *L.*	2	90
grandiflora, *Hook.*	2	90
Pennsylvanica, *L.*	2	90
viscosa, Jacq.	2	90
Physematium, *Kaulf.*	2	259
obtusum, *Hook.*	2	259
Physostegia, *Benth.*	2	116
imbricata, Hook.	2	116
Virginiana, *Benth.*	2	116
Phytolaccæ, *Br.*	2	128
Phytolacca, *L.*	2	128
decandra, *L.*	2	128
Picradenia, *Hook.*	1	317
Richardsoni, *Hook.* (Tab. CVIII.)	1	317
Pinguicula, *L.*	2	118
grandiflora, *Sm.*	2	118
vulgaris, *L.*	2	118
Pinus, *L.*	2	161
alba, *Soland.*	2	163
Balsamea, *L.*	2	163
Banksiana, *Lamb.*	2	161
Canadensis, *L.*	2	164
distorta, Dougl.	2	161
Douglasii, *Sabine*, (Tab. CLXXXIII.)	2	162
grandis, *Dougl.*	2	163
inops, *Sol.*	2	161
Lambertiana, *Dougl.*	2	161
lasiocarpa, *Hook.*	2	163
Menziesii, *Lamb.*	2	162
Mertensiana, *Bong.*	2	164
microcarpa, *Du Roi*,	2	164
monticola, Dougl.	2	161
nigra, *Ait.*	2	163
nobilis, *Dougl.*	2	162
pendula, *Soland.*	2	164
resinosa, *Soland.*	2	161
rubra, *Lamb.*	2	164
rubra, Mx.	2	161
Sabiniana, *Dougl.*	2	162
Sitchensis, *Bong.*	2	164
Strobus, *L.*	2	161

	VOL.	PAGE
laxifolia, Lamb.	2	164
Pisum maritimum, L.	1	158
PLANTAGINEÆ, *Juss.*	2	123
PLANTAGO, *L.*	2	123
aristata, Mx.	2	124
cordata, *Lam.*	2	123
elongata, Pursh,	2	124
gnaphalioides, *Nutt.*	2	124
Kentuckensis, Mx.	2	123
Lagopus, Pursh,	2	124
lanceolata, *L.*	2	123
macrocarpa, *Cham.*	2	123
major, *L.*	2	123
maritima, *L.*	2	123
pauciflora, *Pursh*,	2	124
PLATANTHERA, *Rich.*	2	196
blephariglottis, *Lindl.*	2	199
ciliaris, *Lindl.*	2	199
crispa, Lindl.	2	200
dilatata, *Lindl.*	2	198
elegans, *Lindl.*	2	196
fimbriata, *Lindl.*	2	200
gracilis, *Lindl.*	2	198
graminea, *Lindl.*	2	199
grandiflora, Lindl.	2	200
herbiola, *Lindl.*	2	197
holopetala, *Lindl.*	2	199
Hookeri, *Torr.*	2	196
Huronensis, *Lindl.*	2	198
hyperborea, *Lindl.*	2	197
incisa, *Lindl.*	2	200
Kõnigii, *Lindl.*	2	198
leucostachys, *Lindl.*	2	198
Menziesii, *Lindl.*	2	197
obtusata, *Lindl.* (TAB. CXCIX.)	2	196
orbiculata, *Lindl.* (TAB. CC.)	2	196
psychodes, *Lindl.*	2	200
rotundifolia, *Lindl.* (TAB. CCI.)	2	200
stricta, *Lindl.*	2	199
Schismareffiana, *Lindl.*	2	197
tipuloides, Lindl.	2	195
PLATANUS, *L.*	2	158
occidentalis, *L.*	2	158
PLATYPETALUM, *Br.*	1	66
dubium, *Br.*	1	66
purpurascens, *Br.* (TAB. XXIII.)	1	66
PLATYSPERMUM, *Hook.*	1	68
scapigerum, *Hook.* (TAB. XVIII. B.)	1	68
PLECTRITIS, *DC.*	2	291
congesta, *DC.*	1	291
PLEUROGYNE, *Eschschol.*	2	65
rotata, *L.*	2	65
PLEUROPOGON, *Br.*	2	249
Sabinii, *Br.*	2	249
PLUMBAGINEÆ, *Juss.*	2	123
POA, *L.*	2	244
abbreviata, *Br.*	2	246
airoides, *Nutt.*	2	245
alpina, *L.*	2	245
angustata, *Br.*	2	246
annua, *L.*	2	245
aquatica, L.	2	247
aquatica, var. Torr.	2	247
arctica, *Br.*	2	245
arenaria, β. Trin.	2	245
borealis, *Hook.*	2	244
Canadensis, Torr.	2	248
capillaris, *L.*	2	244
compressa, *L.*	2	246
crocata, *Mx.*	2	246
distans, *L.*	2	245
elongata, Torr.	2	248
fertilis, Host,	2	246
fasciculata ? *Torr.*	2	245
festucæformis, *Host*,	2	245
flexuosa, *Wahl.*	2	245
flexuosa, Sm.	2	245
flexuosa, β. Trin.	2	245
fluitans, E. Bot.	2	248
fulva, *Trin.*	2	247
glauca, Sm.	2	246
laxa, *Hænk.*	2	245
laxa, Br.	2	245
laxa, Wahl.	2	245
leptocoma, *Trin.*	2	247
Michauxii, Kth.	2	254
nemoralis, *L.*	2	246
nervata, Willd,	2	248
Nuttalliana, R. et S.	2	245
obtusa, Muhl.	2	248
pratensis, *L.*	2	246
reptans, *Mx.*	2	244
rotundata, *Trin.*	2	247
serotina, Gaud.	2	246

	VOL.	PAGE
stenantha, *Trin.*	2	248
striata, Mx.	2	248
Torreyana, Spr.	2	248
Podalyria alba, Willd.	1	129
lupinoides, Willd.	1	129
tinctoria, Sims,	1	129
PODOPHYLLEÆ, *DC.*	1	31
PODOPHYLLUM, *L.*	1	31
peltatum, *L.*	1	31
POGONIA, *Juss.*	2	201
ophioglossoides, *Ker*,	2	201
pendula, *Lindl.*	2	202
POLANISIA, *Rafin.*	1	71
graveolens, *Rafin.*	1	71
POLEMONIACEÆ, *Juss.*	2	71
POLEMONIUM, *L.*	2	71
acutiflorum, Willd.	2	71
cæruleum, *L.*	2	71
cæruleum, Cham.	2	71
cæruleum, Hook.	2	71
cæruleum, var. Lindl.	2	71
humile, Willd.	2	71
lanatum, Fisch.	2	71
moschatum, Wormsk.	2	71
pulchellum, Bunge,	2	71
pulcherrimum, Hook.	2	71
Richardsoni, Grah.	2	71
speciosum, Fisch.	2	71
villosum, Don,	2	71
POLYGALA, *Tourn.*	1	84
cruciata, *L.*	1	85
incarnata, *L.*	1	84
paucifolia, *Willd.*	1	86
paucifolia, var.? Nutt.	1	87
polygama, *Walt.* (TAB. XXIX.)	1	86
purpurea, Ait.	1	86
rubella, Willd.	1	86
Senega, *L.*	1	85
uniflora, *Mx.*	1	87
verticillata, *L.*	1	85
POLYGALEÆ, *Juss.*	1	84
POLYGONATUM, *Desf.*	2	176
angustifolium, Pursh,	2	176
canaliculatum, Pursh,	2	176
hirtum, Pursh,	2	176
latifolium, Pursh,	2	176
multiflorum, *Desf.*	2	176
pubescens, Pursh,	2	176
POLYGONEÆ, *Juss.*	2	129
POLYGONUM, *L.*	2	130
alpinum, *All.*	2	131
amphibium, *L.*	2	131
articulatum, *Pursh*,	2	133
aviculare, *L.*	2	132
Bistorta, *L.*	2	130
bistortoides, Pursh,	2	130
cilinode, *Mx.*	2	131
coarctatum, *Dougl.*	2	133
coccineum, Pursh,	2	131
coccineum, var. aquat., Pursh,	2	131
coccineum, var. terrestr., Pursh,	2	131
Convolvulus, *L.*	2	131
confertiflorum, Dougl.	2	132
ellipticum, Willd.	2	130
Fagopyrum, *L.*	2	131
filiforme, Bert.	2	133
Hydropiper, *L.*	2	138
hydropiperoides, Mx.	2	132
lineare, Menz.	2	133
linifolium, Muhl.	2	133
mite, Ell.	2	132
Paronychia, *Cham.*	2	132
Persicaria, *L.*	2	132
Pennsylvanicum, L.?	2	132
sagittatum, *L.*	2	131
tenue, *Mx.*	2	132
Virginicum, *L.*	2	132
viviparum, *L.*	2	130
POLYPODIUM, *L.*	2	258
calcareum, Pursh,	2	259
calcareum, Sm.	2	259
Californicum, *Kaulf.*	2	258
connectile, Mx.?	2	258
cruciatum, Kaulf.	2	258
Dryopteris, *L.*	2	259
hexagonopterum, Mx.	2	258
hyperboreum, Sw.	2	259
Ilvense, Sw.	2	259
intermedium, *Hook.*	2	258
obtusum, Sw.	2	260
Phegopteris, *L.*	2	258
Phegopteris, γ. Schk.	2	258
Virginicum, L.	2	258
vulgare, *L.*	2	258

	VOL.	PAGE
vulgare, Virginianum, Bong.	2	258
Polypogon glomeratus, Willd.	2	237
racemosus, Nutt.	2	237
setosus, Spr.	2	237
PONTEDERIACEÆ, *Kunth,*	2	187
PONTEDERIA, *L.*	2	187
cordata, *L.*	2	187
POPULUS, *L.*	2	153
balsamifera, *L.*	2	153
candicans, *Ait.*	2	154
grandidentata, *Mx.*	2	154
tremuloides, *Mx.*	2	154
trepida, Willd.	2	154
PORTULACA, *Tourn.*	1	222
oleracea, *L.*	1	222
PORTULACEÆ, *Juss.*	1	222
POTAMOGETON, *L.*	2	171
diversifolius, *Bart.*	2	172
fluitans, Roth,	2	172
heterophyllus, *Schreb.*	2	172
lucens, Torr.	2	172
marinus, L.	2	172
natans, *L.*	2	171
pauciflorus, Pursh,	2	172
pectinatus, *L.*	2	172
perfoliatus, *L.*	2	172
prælongus, *Wulff.*	2	172
pusillus, *L.*	2	172
rufescens, *Schrad.*	2	172
setaceus, Pursh,	2	172
zosteræfolius, *Schum.*	2	172
POTENTILLA, *Nestl.*	1	185
absinthiifolia, Dougl.	1	188
anserina, *L.*	1	189
argentea, *L.*	1	191
arguta, *Pursh,* (TAB. LXIII.)	1	186
arguta, Lehm.	1	188
biflora, *Lehm.*	1	195
bipinnatifida, *Dougl.*	1	188
Canadensis, *L.*	1	192
Caroliniana, Poir.	1	192
chrysantha, *Trev.*	1	193
Comarum, Nestl.	1	187
concinna, *Rich.* (TAB. LXVII.)	1	193
confertiflora, Torr.	1	186
dealbata, Dougl.	1	188
dissecta, *DC.*	1	193
diversifolia, *Lehm.*	1	190
Drummondii, *Lehm.* (TAB. LXV.)	1	189
effusa, *Dougl.*	1	187
emarginata, *Pursh,*	1	194
ferruginea, Dougl.	1	186
flabelliformis, *Lehm.* (TAB. LXVI.)	1	192
floribunda, Pursh,	1	186
fragiformis, *Lehm.*	1	194
fruticosa, *L.*	1	186
fruticosa, β. Nestl.	1	186
gracilis, *Dougl.*	1	192
grossa, Dougl.	1	193
Gunneri, Hort.	1	195
Hippeana, *Lehm.* (TAB. LXIV.)	1	188
hirsuta, *Mx.*	1	193
hirsuta, Vahl,	1	194
Jamesoniana, Grev.	1	194
leucophylla, Torr.	1	188
micrantha, Ledeb.	1	195
Millegrana, Dougl.	1	193
Monspeliensis, L.	1	184
Morrisoni, DC.	1	194
nana, *Lehm.*	1	194
nivalis, Torr.	1	176
nivea, *L.*	1	195
Norvegica, *L.*	1	193
obliqua, Dougl.	1	186
opaca, *L.*	1	191
palustris, *Scop.*	1	187
pectinata, Fisch.	1	188
Pennsylvanica, *L.*	1	187
pulchella, *Br.*	1	191
pulcherrima, *Lehm.*	1	190
pumila, Lam.	1	192
retusa, Retz,	1	195
rubricaulis, *Lehm.*	1	191
sarmentosa, Muhl.	1	192
sarmentosa, Willd.	1	192
sericea, *L.*	1	189
simplex, *Mx.*	1	192
supina, *L.*	1	187
tenuifolia, Herb. Willd.	1	186
tridentata, *Ait.*	1	196
villosa, *Pall.*	1	194
Vahliana, *Lehm.*	1	194
uniflora, Ledeb.	1	195
POTERIUM, *L.*	1	198

	VOL.	PAGE
annuum, *Nutt.*	1	198
Sanguisorba, *L.*	1	198
Pothos fœtida, Mx.	2	169
Prenanthes alba, Willd.	1	294
altissima, Willd.	1	294
cordata, Ell.	1	294
juncea, Dougl.	1	295
juncea, Pursh,	1	295
racemosa, Mx.	1	294
Serpentaria, Pursh,	1	294
PRIMULA, *L.*	2	120
Egalicensis, Horn.	2	121
farinosa, *L.*	2	120
farinosa, Sw.	2	120
farinosa, β. Wahl.	2	120
Finmarchica, Willd.	2	121
Hornemanniana, *Rich.*	2	120
integrifolia, Œd.	2	121
Mistassinaca, Mx.	2	120
nivalis, *Pall.*	2	120
Norvegica, Retz,	2	121
pusilla, Hook.	2	120
saxifragifolia, *Lehm.*	2	121
Scotica, *Hook.*	2	121
Sibirica, *Jacq.*	2	120
stricta, Horn.	2	120
PRIMULACEÆ, *Juss.*	2	118
PRINOS, *L.*	1	121
glaber, *L.*	1	122
Gronovii, Mx.	1	121
verticillatus, *L.*	1	121
PROSERPINACA, *L.*	1	215
palustris, *L.*	1	215
PRUNELLA, *Benth.*	2	114
Pennsylvanica, *L.*	2	114
vulgaris, *L.*	2	114
PRUNUS, *Tourn.*	1	167
borealis, Pursh,	1	168
Canadensis, Willd.	1	169
Chicasa, Pursh,	1	168
depressa, Pursh,	1	168
hyemalis, Mx.	1	168
Insititia, Walt.	1	168
lanceolata, Willd.	1	168
nigra, Ait.	1	167
obovata, Big.	1	169
Pennsylvanica, L.	1	168

	VOL.	PAGE
pumila, L.	1	167
spinosa, *L.*	1	167
serotina, Ehrh.	1	169
Susquehanæ, Willd.	1	168
Virginiana, L.	1	169
Virginiana, Nutt.	1	169
Psamma arenaria, Beauv.	2	241
PSORALEA, *L.*	1	135
arenaria, Nutt.	1	135
argophylla, *Pursh*, (TAB. LII.)	1	135
brachiata, *Dougl.* (TAB. LIII.)	1	137
candida, Poir.	1	137
elliptica, Pursh,	1	135
incana, Nutt.	1	136
lanceolata, *Pursh*, (TAB. LI.)	1	135
macrostachya, *DC.*	1	136
physodes, *Dougl.*	1	136
violacea, Poir.	1	138
PTERIS, *L.*	2	263
aquilina, *L.*	2	263
atropurpurea, *L.*	2	264
caudata, Pursh,	2	263
gracilis, *Mx.*	2	264
gracilis, var.? Rich.	2	264
lanuginosa, H. et A.	2	263
PTEROSPORA, *Nutt.*	2	48
Andromedea, *Nutt.*	2	48
Pulmonaria denticulata, Rœm.	2	87
lanceolata, Pursh,	2	86
marginata, Nutt.	2	86
maritima, L.	2	86
paniculata, Ait.	2	87
parviflora, Mx.	2	86
pilosa, Cham.	2	87
Sibirica, Pursh,	2	87
PURSHIA, *DC.*	1	170
tridentata, *DC.* (TAB. LVIII.)	1	170
PYCNANTHEMUM, *Mx.*	2	113
incanum, *Mx.*	2	113
PYRETHRUM, *Willd.*	1	320
Caucasicum, Willd.	1	320
inodorum, *Sm.*	1	320
PYROLA, *L.*	2	45
aphylla, *Sm.* (TAB. CXXXVII.)	2	48
asarifolia, Torrey,	2	48
asarifolia, Mx.	2	46
bracteata, *Hook.*	2	47

	VOL.	PAGE
chlorantha, *Sw.* (TAB. CXXXIV.)	2	46
convoluta, Banks.	2	46
dentata, *Sm.* (TAB. CXXXVI.)	2	47
elliptica, *Nutt.* (TAB. CXXXV.)	2	47
Groenlandica, Horn.	2	46
incarnata, Fisch.	2	46
maculata, L.	2	49
Menziesii, Br.	2	49
minor, *L.*	2	45
occidentalis, *Don*,	2	47
phytolaccoides, Lyon,	2	53
picta, *Sm.*	2	47
pumila, Horn.	2	46
rosea, Pursh,	2	45
rotundifolia, *L.*	2	46
rotundifolia, Mx.	2	47
secunda, *L.*	2	45
umbellata, L.	2	49
uniflora, *L.*	2	45
PYRROCOMA, *Hook.*	1	306
carthamoides, *Hook.* (TAB. CVII.)	1	307
PYRUS, *Lindl.*	1	203
Americana, *DC.*	1	204
arbutifolia, *L.*	1	204
Botryapium, L.	1	202
melanocarpa, Willd.	1	204
ovalis, Willd.	1	202
rivularis, *Dougl.* (TAB. LXVIII.)	1	203
sanguinea, Pursh,	1	203
Queria Canadensis, L.	1	226
QUERCUS, *L.*	2	158
alba, *L.*	2	158
Bannisteri, *Mx.*	2	158
Garryana, *Dougl.*	2	159
obtusiloba, *Mx.*	2	158
rubra, *L.*	2	158
tinctoria, *Bartr.*	2	158
RANUNCULACEÆ, *Juss.*	1	10
RANUNCULUS, *L.*	1	10
abortivus, *L.*	1	14
acris, *L.*	1	18
affinis, *Br.* (TAB. VI. A.)	1	12
aquatilis, *L.*	1	10
aquatilis, β. Schk.	1	10
arcticus, Rich.	1	13
brevicaulis, *Hook.* (TAB. VII. A.)	1	13
bulbosus, *L.*	1	21
Canadensis, Jacq.	1	19
cardiophyllus, *Hook.* (TAB. V. B.)	1	14
Carolinianus, DC.	1	20
Cymbalaria, *Pursh*,	1	11
Escholtzii, *Schl.*	1	18
fascicularis, *Muhl.* (TAB. VIII. A.)	1	20
fascicularis, Schl.	1	21
filiformis, MX.	1	11
Flammula, *L.*	1	11
fluviatilis, Willd.	1	10
fluviatilis, Big.	1	15
glaberrimus, *Hook.* (TAB. V. A.)	1	12
Gmelini, Schk.	1	16
halophilus, Schl.	1	11
hispidus, *Mx.*	1	19
hyperboreus, *Roth*,	1	16
Langsdorffii, DC.	1	15
Lapponicus, *L.*	1	16
multifidus, Pursh,	1	15
nitidus, *Muhl.*	1	20
nitidus, Walt.	1	14
nivalis, *L.*	1	17
nivalis, β. Walt.	1	17
nivalis, γ. Br.	1	17
orthorhynchus, *Hook.* (TAB. IX.)	1	21
ovalifolius, Pursh,	1	12
ovalis, *Raf.* (TAB. VI. B.)	1	13
Pallasii, *Schl.*	1	10
pantothrix, Brot.	1	10
pedatifidus, *Sm.* (TAB. VIII. B.)	1	18
Pennsylvanicus, *L.*	1	19
Pursh ii, *Rich.* (TAB. VII. B.)	1	15
Purshii, Rich.	1	15
Purshii, β. Rich.	1	15
pygmæus, *Wahl.*	1	16
recurvatus, *Poir.*	1	20
repens, *L.*	1	19
reptans, L.	1	11
rhomboideus, *Gold.*	1	12
Sabinii, *Br.*	1	17
salsuginosus, Pall.	1	11
sceleratus, *L.*	1	15
Schlechtendalii, *Hook.*	1	21
septentrionalis, Pursh,	1	20
stagnatilis, Wallr.	1	10
sulphureus, Sol.	1	17
Razomowskia Caucasica, Hoffm.	1	278

	VOL.	PAGE
Reboulea, *Kth.*	2	249
gracilis, *Kth.*	2	249
Restiaceæ, *Br.*	2	187
Rhabdocrinum serotinum, Reich.	2	183
Rhamneæ, *Br.*	1	122
Rhamnus, *Lam.*	1	122
alnifolius, *L'Hérit.* (Tab. XLII.)	1	122
alpinus, *Rich.*	1	122
? cuneatus, *Hook.*	1	124
franguloides, Mx.	1	120
oleifolius, *Hook.* (Tab. XLIV.)	1	123
Purshianus, *DC.* (Tab. XLIII.)	1	123
Rhinanthus, *L.*	2	106
Crista Galli, *L.*	2	106
Rhodiola rosea, L.	1	227
Rhododendron, *Don*,	2	42
albiflorum, *Hook.* (Tab. CXXXIII.)	2	43
Kamtschaticum, *Pall.*	2	43
Lapponicum, *Wahl.*	2	43
maximum, *Pursh*,	2	42
nudiflorum, *Pursh*,	2	43
viscosum, *Pursh*,	2	42
Rhodora, *L.*	2	42
Canadensis, *L.*	2	42
Rhynchospora, *Vahl*,	2	233
alba, *Vahl*,	2	233
capitellata, Vahl,	2	233
glomerata, *Vahl*,	2	233
Rhus, *L.*	1	126
aromatica, *Ait.*	1	127
glabra, *L.*	1	126
lobata, *Hook.* (Tab. XLVI.)	1	127
radicans, *L.*	1	127
Toxicodendron, *L.*	1	127
Toxicodendron, α. Mx.	1	127
Toxicodendron, β. Torr.	1	127
typhina, *L.*	1	126
venenata, *DC.*	1	126
Vernix, *L.*	1	126
Ribes, *L.*	1	229
affine, Dougl.	1	232
albinervium ? Mx.	1	232
aureum, *Pursh*,	1	235
aureum, Coll.	1	235
aureum, var. Dougl.	1	235
bracteosum, *Dougl.*	1	233
cereum, *Dougl.*	1	234
Cynosbati, *Mx.*	1	230
divaricatum, *Dougl.*	1	231
echinatum, Dougl.	1	232
ferox, Sm.	1	229
flavum, Berl.	1	235
floridum, *L'Hérit.*	1	233
fuchsioides, Fl. Mex.	1	229
glandulosum, Ait.	1	232
glandulosum, Rich.	1	232
hirtellum, *Mx.*	1	231
Hudsonianum, *Rich.*	1	233
irriguum, *Dougl.*	1	231
lacustre, *Pursh*,	1	232
laxiflorum, Pursh,	1	232
laxiflorum, Rich.	1	232
malvaceum, Sm.	1	234
Menziesii, *Pursh*,	1	229
nigrum, Rich.	1	233
oxyacanthoides, *L.*	1	230
oxyacanthoides, Rich.	1	234
oxyacanthoides, Mx.	1	232
Pennsylvanicum, Lam.	1	234
petiolare, Dougl.	1	233
prostratum, *L'Hérit.*	1	232
recurvatum, Mx.	1	234
rigens, Big.	1	232
rubrum, *L.*	1	232
sanguineum, *Pursh*,	1	234
saxatile, Dougl.	1	231
saxosum, *Dougl.*	1	231
setosum, *Lindl.*	1	230
speciosum, Pursh,	1	229
stamineum, *Sm.*	1	229
tenuiflorum, *Lindl.*	1	235
triacanthum, Menz.	1	229
trifidum, *Mx.*	1	232
triflorum, *Willd.*	1	230
triflorum, Big.	1	231
viscosissimum, *Pursh*, (Tab. LXXVI.)	1	234
Ricotia linifolia, Rœm.	2	86
Robinia, *DC.*	1	140
Pseudacacia, *L.*	1	140
Rochelia deflexa, Rœm.	2	84
Lappula, Rœm.	2	84
Virginiana, Rœm.	2	83
Romanzoffia, *Cham.*	1	104
Sitchensis, *Bong.*	1	104

	VOL.	PAGE
Unalaschkana, *Cham.*	1	104
ROSA, *Tourn.*	1	198
blanda, *Ait.*	1	199
blanda, Pursh,	1	199
Carolina, *L.*	1	199
Carolina, ζ. Ait.	1	200
Caroliniana, Big.	1	199
cinnamomea, *L.*	1	200
fraxinifolia, *Bork.*	1	199
fraxinifolia, α. DC.	1	199
lævigata? *Mx.*	1	200
lucida, *Ehrh.*	1	199
majalis, *Retz*,	1	200
nitida, *Willd.*	1	198
pendulina, L.	1	200
Pennsylvanica, MX.	1	199
stricta, *Muhl.*	1	200
Woodsii, *Lindl.*	1	199
ROSACEÆ, *Juss.*	1	167
RUBIACEÆ, *Mx.*	1	285
RUBUS, *L.*	1	177
acaulis, *Mx.*	1	182
ægopodioides, SW.	1	181
arcticus, *L.*	1	182
Canadensis, *L.*	1	180
Canadensis? Torr.	1	181
Chamæmorus, *L.*	1	183
Dalibarda, L.	1	184
flagellaris, Willd.	1	180
hispidus, L.?	1	180
Idæus, β. Rich.	1	177
leucodermis, Dougl.	1	178
macropetalus, *Dougl.* (TAB. LIX.)	1	178
Menziesii, *Hook.*	1	182
mucronatus, *Ser.*	1	178
myriacanthus, Dougl.	1	179
nivalis, *Dougl.*	1	181
Nutkanus, *Moc.*	1	183
obovalis, MX.	1	180
obovatus, *Mx.* (TAB. LX.)	1	180
occidentalis, *Mx.*	1	178
odoratus, *L.*	1	183
parviflorus? Nutt.	1	181
pedatus, *Sm.* (TAB. LXI.)	1	181
Pennsylvanicus, Poir.	1	177
pistillatus, Sm.	1	182
propinquus, Rich.	1	182
procumbens, Muhl.	1	180
saxatilis, β. MX.	1	181
sempervirens, Big.	1	180
setosus, *Big.*	1	179
spectabilis, *Pursh*,	1	179
stellatus, *Sm.*	1	177
stenopetalus, Fisch.	1	178
strigosus, *Andr.*	1	179
triflorus, *Rich.* (TAB. LXII.)	1	180
trivialis, *Mx.*	1	180
villosus, *Ait.*	1	179
RUDBECKIA, *Cass.*	1	311
columnaris, *Nutt.*	1	311
laciniata, *Schrad.*	1	311
RUMEX, *L.*	2	129
Acetosa, *L.*	2	129
Acetosella, *L.*	2	129
acutus, *L.*	2	130
aquaticus, β. Wahl.	2	129
crispus, *L.*	2	129
digynus, L.	2	129
domesticus, *Hartm.*	2	129
maritimus, L.?	2	130
Nemolapathum, Ehrh.	2	130
pallidus, Big.	2	129
persicarioides, *L.*	2	130
salicifolius, *Weinm.*	2	129
sanguineus, *L.*	2	130
venosus, *Pursh*, (TAB. CLXXIV.)	2	130
verticillatus, *Rich.*	2	129
viridis, Sibth.	2	130
RUPPIA, *L.*	2	170
maxitima, *L.*	2	170
RUTACEÆ, *Juss.*	1	118
SABBATIA, *Adans.*	2	69
angularis, *Pursh*,	2	70
campanulata, Torrey,	2	70
gracilis, *Salisb.*	2	69
SAGINA, *L.*	1	92
procumbens, *L.*	1	92
SAGITTARIA, *L.*	2	167
acutifolia, Pursh,	2	167
gracilis, Pursh,	2	167
graminea, Pursh,	2	167
hastata, Pursh,	2	167
heterophylla, Pursh,	2	167
latifolia, Pursh,	2	167

	VOL.	PAGE
sagittifolia, *L.*	2	167
simplex, Pursh,	2	167
SAMBUCUS, *L.*	1	278
Canadensis, *L.*	1	279
pubens, Mx.	1	279
racemosa, *L.*	1	279
SALICORNIA, *L.*	2	125
annua, E. Bot.	2	125
fruticosa, Sm.	2	125
herbacea, *L.*	2	125
radicans, *Sm.*	2	125
SALIX, *L.*	2	144
acutifolia, *Willd.*	2	150
adenophylla, *Hook.*	2	146
Ammanniana ? Rich.	2	153
Anglorum, Cham.	2	153
arctica, *Br.*	2	152
arenaria, H. et A.	2	151
balsamifera, Barr.	2	149
Barrattiana, *Hook.* (TAB. CLXXXI.)	2	146
candida, *Pursh*,	2	144
cordata, *Willd.*	2	149
cordata, Rich.	2	149
cordata, Mx.	2	150
cordifolia, *Pursh*,	2	152
desertorum, *Rich.*	2	151
depressa, *Hoffm.*	2	151
discolor, *Willd.*	2	147
Drummondiana, *Barr. ms.*	2	144
falcata, *Pursh*,	2	149
fragilis, *L.*	2	148
fusca, *L.*	2	148
Helvetica ? Barr.	2	146
herbacea, *L.*	2	153
Hookeriana, *Barr.* (TAB. CLXXX.)	2	145
Lapponum ? *L.*	2	151
longifolia, *Willd.*	2	149
lucida, *Willd.*	2	148
Mackenzieana, Barr.	2	149
Myrsinites, *L.*	2	151
nigra, *Willd.*	2	148
nivalis, *Hook.*	2	152
obovata ? Pursh,	2	152
pedicellaris, *Pursh*,	2	150
petiolaris, *Sm.*	2	148
planifolia, *Pursh*,	2	150
polaris, *Wahl.*	2	153
prinoides, *Pursh*,	2	150
purpurea, *L.*	2	148
repens, E. Bot.	2	151
reticulata, *L.*	2	151
retusa, *L.*	2	153
Richardsoni, *Hook.* (TAB. CLXXXII.)	2	147
rigida, *Willd.*	2	149
rosmarinifolia, *L.*	2	148
rostrata, *Rich.*	2	147
rubra, Rich.	2	149
Scouleriana, *Barr.*	2	145
serpyllifolia, Scop.	2	153
speciosa, *H. et A.*	2	145
Stuartiana, *Sm.*	2	151
vestita, *Pursh*,	2	152
villosa, *Don*, ?	2	144
viminalis, *L.*	2	148
Uva ursi, *Pursh*,	2	152
SALVIA, *L.*	2	112
carnosa, Dougl.	2	112
lyrata, β. Pursh,	2	112
obovata, *Ell.*	2	112
SALVINIACEÆ, *Bartl.*	2	268
SALVINIA, *L.*	2	268
natans, *L.*	2	268
SANGUINARIA, *L.*	1	34
Canadensis, *L.*	1	35
SANGUISORBA, *L.*	1	197
Canadensis, *L.*	1	198
media, *L.*	1	197
SANICULA, *L.*	1	257
arctopioides, *H. et Gr.* (TAB. XCI.)	1	258
bipinnatifida, *Dougl.* (TAB. XCII.)	1	258
Canadensis, L.	1	257
Marylandica, *L.*	1	257
Menziesii, *H. et Gr.* (TAB. XC.)	1	258
SANTALACEÆ, *Br.*	2	138
Santolina suaveolens, Pursh,	1	327
SARRACENIEÆ, *De la Pyl.*	1	33
SARRACENIA, *L.*	1	33
purpurea, *L.*	1	33
SASSAFRAS, *N. ab E.*	2	137
officinale, *N. ab E.*	2	137
Satyrium repens, L.	2	203
SAURUREÆ, *Rich.*	2	143, 170

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SAURURUS, *L.*	2	143, 170
cernuus, *L.*	2	143, 170
SAUSSUREA, *DC.*	1	303
alpina, *DC.*	1	303
monticola, *Rich.*	1	303
multiflora, Rich.	1	303
SAXIFRAGA, *L.*	1	242
æstivalis, Fisch.	1	251
Aizoon, *Jacq.*	1	255
aizoides, *Sm.*	1	243
amplexifolia, Sternb.	1	256
androsacea, *L.*	1	244
arguta, *Don*,	1	251
aspera, Bieb.	1	253
autumnalis, L.	1	255
bicolor, Sternb.	1	243
bronchialis, *L.*	1	254
cæspitosa, *L.*	1	244
cæspitosa, Sm.	1	244
cernua, *L.*	1	245
Chamissoi, Sternb.	1	254
Clusii, Ser.	1	250
coriacea, Fisch.	1	256
Dahurica, Pall.	1	250
elongata, Sternb.	1	248
Eschscholtzii, *Sternb.*	1	243
Eschscholtzii, Cham.	1	243
exarata, *Vill.*	1	244
exilis, *Steph.*	1	245
ferruginea, Grah.	1	250
fimbriata, Don,	1	243
Fischeri, DC.	1	243
flagellaris, *Willd.* (TAB. LXXXVII.)	1	253
foliolosa, *Br.*	1	251
Geum, Pursh,	1	251
gracilis, Steph.	1	252
gracilis, Sternb.	1	252
Grœnlandica, L.	1	254
heterantha, (TAB. LXXXVIII. B.)	1	252
hieracifolia, *Kit.*	1	249
Hirculus, *L.*	1	252
hirsuta, β. Ser.	1	251
hyperborea, Br.	1	246
integrifolia, *Hook.* (TAB. LXXXVI.)	1	249
Jamesii, *Torr.* (TAB. LXXXIV.)	1	247
Laurentiana, *Ser.*	1	245
leucanthemifolia, *Mx.*	1	250
micrantha, Fisch.	1	256
myosotifolia, Pall.	1	253
Nelsoniana, *Don*,	1	251
Nelsoniana, Hook.	1	247
nervosa, Lap.	1	248
nivalis, *L.*	1	245
nudicaulis, *Don*,	1	252
nutans, *Don*,	1	245
oppositifolia, *L.*	1	242
pectinata, Pursh,	1	255
Pennsylvanica, *L.*	1	249
petræa, *L.*	1	245
planifolia, Cham.	1	243
plantaginifolia, Hook.	1	249
Ponæ, Sternb.	1	245
propinqua, Br.	1	252
punctata, *L.*	1	251
pyrolifolia, Don,	1	256
ranunculifolia, *Hook.* (TAB. LXXXIII.)	1	246
reflexa, *Hook.* (TAB. LXXXV.)	1	249
Richardsonii, *Hook.*	1	247
rivularis, *L.*	1	245
rupestris, Willd.	1	245
setigera, Pursh,	1	253
serpyllifolia, *Pursh*,	1	243
Sibirica, *L.*	1	246
sileniflora, *Cham.*	1	245
spicata, *Don*,	1	251
stellaris, *L.*	1	250
stellaris, β. *Willd.*	1	251
stellaris, γ. L.	1	251
tricuspidata, *Retz*,	1	254
venosa, Haw.	1	243
venosa? Haw.	1	244
vernalis, *Willd.*	1	248
Virginiensis, *Mx.*	1	248
Virginiensis, Torr.	1	248
uniflora, *Br.*	1	244
SAXIFRAGEÆ, *Juss.*	1	235
SCHEUCHZERIA, *L.*	2	168
palustris, *L.*	2	168
SCHIZÆA, *Sw.*	2	265
australis, Gaud.	2	265
filifolia, De la Pyl.	2	265

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pusilla, *Br.*	2	265
Schænus albus, L.	2	233
glomeratus, L.	2	233
monoicus, Sm.	2	233
spathaceus, L.	2	233
Schollera graminifolia, Willd.	2	187
Scilla esculenta, β. Hook.	2	186
SCIRPUS, *Br.*	2	229
acicularis, L.	2	229
acutus, Muhl.	2	229
Americanus,	2	229
atrovirens, *Muhl.*	2	230
Bæobothryon, Ehrh.	2	229
Bellardi, Wahl.	2	228
cæspitosus, E. Bot.	2	229
capillaceus, Muhl.	2	229
capitatus, Walt.	2	229
Eriophorum, *Mx.*	2	230
lacustris, *L.*	2	229
lenticularis, *Torr.*	2	230
macrostachyos, Muhl.	2	230
maritimus, *L.*	2	230
maritimus, β. Mx.	2	230
mucronatus, Pursh,	2	229
multicaulis, E. Bot.	2	228
obtusus, Willd.	2	229
ovatus, Pursh,	2	229
palustris, L.	2	228
palustris, β. L.	2	228
pauciflorus, E. Bot.	2	229
polyphyllus, Pursh,	2	230
pungens, Vahl,	2	229
robustus, Pursh,	2	230
spathaceus, *Mx.*	2	232
subterminalis, *Torr.*	2	229
sylvaticus, *L.*	2	230
tenuifolius, DC.	2	229
thyrsiflorus, Willd.	2	230
trichodes, Muhl.	2	229
triqueter, *L.*	2	229
validus, Vahl,	2	229
SCROPHULARIA, *L.*	2	94
Marylandica, *L.*	2	94
nodosa, var. Mx.	2	94
SCROPHULARINEÆ, *Juss.*	2	93
SCUTELLARIA, *L.*	2	114
ambigua, Nutt.	2	115
angustifolia, *Ph.*	2	114
antirrhinoides, *Benth.*	2	115
canescens, *Nutt.*	2	114
galericulata, *L.*	2	114
incana, Spr.	2	115
laterifolia, *L.*	2	115
parvula, *Mx.*	2	115
serrata, Spr.	2	114
SEDUM, *DC.*	1	226
Douglasii, *Hook.*	1	227
Rhodiola, *DC.*	1	227
spathulifolium, *Hook.*	1	227
stenopetalum, *Pursh*,	1	228
ternatum, *Mx.*	1	228
SELINUM, *Hoffm.*	1	265
Canadense, Mx.	1	266
terebinthinum, *Hook.* (TAB. XCV.)	1	265
SENECIO, *L.*	1	331
atriplicifolius, *Hook.*	1	332
aureus, *L.*	1	333
Balsamita, *Muhl.*	1	332
Canadensis, *L.*	1	334
canus, *Hook.* (TAB. CXVI.)	1	333
Cymbalaria, Pursh,	1	333
eremophyllus, *Rich.*	1	334
fastigiatus, Schwein.	1	333
frigidus, *Less.* (TAB. CXII.)	1	334
gracilis, Pursh,	1	333
hieraciifolius, *Mx.*	1	332
Kalmii, *L.*	1	335
Kalmii, H. et A.	1	332
integrifolius, *Nutt.*	1	335
lugens, *Rich.* (TAB. CXIV.)	1	332
obovatus, Willd.	1	333
pauciflorus, *Pursh*,	1	332
pauciflorus, Pursh,	1	333
palustris, *L.*	1	334
Pseudo-Arnica, *Less.* (TAB. CXIII.)	1	334
resedifolius, *Less.* (TAB. CXVII.)	1	333
Serra, *Hook.*	1	333
triangularis, *Hook.* (TAB. CXV.)	1	332
vulgaris, *L.*	1	331
SERIOCARPUS, *Nees*,	2	14
rigidus, *Lindl.*	2	14
solidaginoides, *Nees*,	2	14
Serpicula occidentalis, Pursh,	2	193
verticillata, L.	2	193

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Serratula arvensis, L.	1	302
Noveboracensis, L.	1	304
prœalta, L.	1	304
scariosa, L.	1	306
squarrosa, L.	1	306
SESELI, *L.*	1	263
divaricatum, *Pursh*,	1	264
leiocarpum, *Hook.* (TAB. XCIII.)	1	263
triternatum, *Pursh*, (TAB. XCIV.)	1	263
SETARIA, *Beauv.*	2	236
glauca, *Beauv.*	2	236
SHEPHERDIA, *Nutt.*	2	138
argentea, *Nutt.* (TAB. CLXXVIII.)	2	138
Canadensis, *Nutt.*	2	138
SIBBALDIA, *Ledeb.*	1	196
erecta, L.	1	196
procumbens, *L.*	1	196
SICYOS, *L.*	1	220
angulatus, *L.*	1	220
lobatus, Mx.	1	220
SIDA, *Cav.*	1	108
coccineà, *DC.*	1	108
malvæflora, *Lindl.*	1	108
SIEVERSIA, *Willd.*	1	177
anemonoides, *Willd.*	1	176
humilis ? *Br.*	1	176
glacialis, *Br.*	1	176
radiata, Mx.	1	176
Rossii, *Br.*	1	176
rotundifolia, Cham.	1	177
triflora, *Br.*	1	176
SILENE, *L.*	1	87
acaulis, *L.*	1	87
Antirrhina, *L.*	1	89
Armeria, *L.*	1	91
Douglasii, *Hook.*	1	88
Drummondii, *Hook.*	1	89
inflata, *Sm.*	1	90
Menziesii, *Hook.* (TAB. XXX.)	1	90
Nicæensis, Cham. ?	1	89
Pennsylvanica, *Mx.*	1	90
Scouleri, *Hook.*	1	88
stellata, *Ait.*	1	88
Virginica, *L.*	1	90
Sison Canadensis, L.	1	262
aureus, Spr.	1	260
SISYMBRIUM, *All.*	1	60
amphibium, *L.*	1	39
arabidoides, *Hook.* (TAB. XXI.)	1	62
brachycarpum, *Rich.*	1	62
canescens, *Nutt.*	1	62
curvisiliqua, *Hook.*	1	61
humile, *Ledeb.*	1	62
junceum, *Bieb.*	1	61
Nasturtium, L.	1	39
officinale, *Scop.*	1	61
Sophia, var. ? Rich.	1	61
Sophia, Cham.	1	61
sophioides, *Fisch.* (TAB. XX.)	1	61
terrestre, Sm.	1	39
SISYRINCHIUM, *L.*	2	206
anceps, *L.*	2	207
gramineum, Lam. ?	2	207
grandiflorum, *Dougl.*	2	207
mucronatum, *Mx.*	2	206
SIUM, *Koch*,	1	262
Canadense, Lam.	1	262
? Douglasii, *DC.*	1	263
latifolium, *L.*	1	262
lineare, *Mx.*	1	262
SMILACEÆ, *Br.*	2	172
SMILACINA, *Desf.*	2	175
bifolia, *Rœm.*	2	175
borealis, *Gawl.*	2	175
borealis, β, Rœm.	2	175
racemosa, *Desf.*	2	175
stellata, *Desf.*	2	175
triflora, *Desf.*	2	175
uniflora, *Menz.* (TAB. CXC.)	2	175
SMILAX, *L.*	2	172
caduca ? Willd.	2	173
herbacea, L.	2	173
lasioneuron, *Hook.* (TAB. CLXXXVII. A.)	2	173
peduncularis, *Muhl.* (TAB. CLXXXVII. B.)	2	173
quadrangularis ? Willd.	2	173
rotundifolia, *L.*	2	172
Smyrnium aureum, L.	1	260
cordatum, Walt.	1	260
nudicaule, Pursh,	1	268
trifoliatum, Nutt.	1	260
SOLANEÆ, *Juss.*	2	90
SOLANUM, *L.*	2	90

	VOL.	PAGE
nigrum, *L.*	2	90
triflorum, *Nutt.*	2	90
SOLIDAGO, *L.*	2	1
altissima, *Ait.*	2	2
altissima ? Ait.	2	2
altissima, β. Ait.	2	2
arguta, *Ait.*	2	3
asperata, *Herb. Banks,*	2	3
axillaris, Herb. Banks,	2	4
bicolor, *Ait.*	2	3
cæsia, L.	2	5
Canadensis, *Ait.*	2	1
confertiflora, *Nutt.*	2	4
elata, *Herb. Banks,*	2	5
flexicaulis, *Hook.*	2	4
gigantea, *Ait.*	2	2
glomerata, Mx. ?	2	4
graminifolia, Nutt.	2	6
humilis, *Herb. Banks,*	2	5
juncea, *Ait.*	2	3
lævigata, *Ait.*	2	4
lanata, *Hook.*	2	4
lanceolata, *L.*	2	6
lateriflora, *Ait.*	2	2
latifolia, L. Herb.	2	5
macrophylla, *Herb. Banks,*	2	4
multiradiata, *Ait.*	2	5
nemoralis, *Ait.*	2	3
odora, *Ait.*	2	3
pilosa, Mill.	2	2
procera, *Ait.*	2	2
rigida, *Ait.*	2	5
rugosa, *Willd.*	2	2
Sarothra, Pursh,	2	23
sempervirens, *Ait.*	2	3
serotina, *Ait.*	2	2
squamosa, Nutt.	2	4
stricta, *Ait.*	2	4
tenuifolia, Rich.	2	6
villosa, *Herb. Banks,*	2	2
viminea, *Ait.*	2	4
Virgaurea, Ait.	2	5
Virgaurea, Pursh ?	2	5
SONCHUS, *L.*	1	292
alpinus, *L.*	1	293
arvensis, *L.*	1	292
cæruleus, Sm.	1	293
leucophæus, *Willd.*	1	293
oleraceus, *L.*	1	292
pallidus, *Willd.*	1	293
Sibiricus, *L.*	1	293
Sophora fabacea, Pall.	1	128
lupinoides, Pall.	1	129
lupinoides, α. L. ?	1	128
tinctoria, L.	1	129
Sorbus Americana, Pursh,	1	204
Aucuparia, β. Mx.	1	204
SPARGANIUM, *L.*	2	169
erectum, L.	2	169
erectum, β. *L.*	2	169
natans, *L.*	2	169
ramosum, *Sm.*	2	169
simplex, *Sm.*	2	169
SPARTINA, *Schreb.*	2	242
cynosuroides, *Willd.*	2	242
polystachya, *Willd.*	2	242
SPECULARIA, *Heist.*	2	29
perfoliata, *Alph. DC.*	2	29
SPERGULA, *L.*	1	92
arvensis, *L.*	1	92
decumbens, Ell.	1	93
maxima, Weih.	1	93
nodosa, *L.*	1	93
pentandra, Sm.	1	92
procumbens, β. L.	1	93
ramosissima, *Dougl.*	1	93
saginoides, *L.*	1	93
saginoides, Curt.	1	93
subulata, *Swartz,*	1	93
Spergulastrum gramineum, Mx.	1	94
lanceolatum, Mx.	1	95
SPIRÆA, *L.*	1	171
acuminata, Dougl.	1	173
alba, Ehrh.	1	172
ariæfolia, *Sm.*	1	175
Aruncus, *L.*	1	173
betulæfolia, *Pall.*	1	172
capitata, Pursh,	1	171
chamædrifolia, *L.*	1	171
discolor, Pursh,	1	173
Douglasii, *Hook.*	1	172
hypericifolia, *L.*	1	171
lucida, Dougl.	1	172
Menziesii, *Hook.*	1	173

	VOL.	PAGE
monogyna, Torr.	1	171
opulifolia, *L.*	1	171
salicifolia, *Mx.*	1	172
salicifolia, *γ.* Ait.	1	173
sorbifolia, *L.*	1	173
tomentosa, *L.*	1	172
trifolioliata, L.	1	174
SPIRANTHES, *Rich.*	2	202
cernua, *Rich.*	2	202
decipiens, *Hook.* (TAB. CCIV.)	2	203
gracilis, *Bigel.* (TAB. CCIII.)	2	202
? *Unalaschkensis*, Spreng.	2	197
Sporobolus tenacissimus, Beauv.	2	239
STAPHYLÆA, *L.*	2	119
trifolia, *L.*	1	119
STACHYS, *L.*	2	116
ambigua, E. Bot.	2	116
aspera, *Mx.*	2	116
ciliata, *Dougl.*	2	116
Fæniculum, *Pursh*,	2	115
hispida, Mx.	2	116
palustris, *L.*	2	116
STATICE, *L.*	2	123
Armeria, *L.*	2	123
Caroliniana, *Walt.*	2	123
STELLARIA, *L.*	1	94
aquatica, Pall.	1	93
borealis, *Big.*	1	94
crassifolia, Cham.	1	97
crassifolia, *β.* Wahl.	1	97
crispa, *Cham.*	1	97
Edwardsii, *Br.* (TAB. XXXI.)	1	96
gracilis, *Rich.*	1	97
graminea, Big.	1	94
graminea, *γ.* L.	1	93
humifusa, *Rottb.*	1	97
læta, *Rich.*	1	96
lanceolata, Torr.	1	95
longifolia, *Muhl.*	1	94
longipes, *Gold.*	1	95
media, *Sm.*	1	94
nitida, Hook.	1	96
ovalifolia, *Hook.*	1	97
palustris, *α.* Rich.	1	96
palustris, *β.* Rich.	1	96
stricta, *Rich.*	1	96
stricta, *α.* Rich.	1	96
uliginosa, Murr.	1	93
Stellara lathræoides, Fisch.	2	92
Stenactis annua, Nees,	2	20
dubia, Cass.	2	20
STIPA, *L.*	2	237
Canadensis, Poir.	2	236
capitata, *L.*	2	237
hymenoides, R. et S.	2	237
juncea, Mx.	2	256
juncea, Pursh ?	2	237
membranacea, *Pursh*,	2	237
parviflora, Nutt.	2	237
Sparta, *Trin.*	2	237
STREPTOPUS, *Mx.*	2	173
amplexifolius, *DC.*	2	173
distortus, *Mx.* (TAB. CLXXXVIII. A.)	2	173
lanuginosus, Mx.	2	175
roseus, *Mx.* (TAB. CLXXXVIII. B.)	2	173
Strophostyles helvola, Ell.	1	162
Struthiopteris Pennsylvanica, Willd.	2	262
SWERTIA, *L.*	2	66
Americana, Spreng.	2	67
corniculata, Mx.	2	67
Michauxiana, R. et S.	2	67
perennis, *L.*	2	66
sulcata, Fries,	2	65
SYMPLOCARPUS, *Salisb.*	2	169
fœtidus, *Nutt.*	2	169
Kamtschaticus, *Bong.*	2	169
TALINUM, *Adams*,	1	223
? Menziesii, *Hook.* (TAB. LXX.)	1	223
TANACETUM, *L.*	1	327
camphoratum, L.	1	327
matricarioides, Less.	1	327
pauciflorum, *Rich.*	1	327
? suaveolens, *Hook.* (TAB. CX.)	1	327
vulgare, *L.*	1	327
TAXODIUM, *Rich.*	2	164
sempervirens, *Lamb.*	2	164
TAXUS, *L.*	2	167
baccata, *L.*	2	167
Canadensis, Willd.	2	167
TELLIMA, *Br.*	1	239
grandiflora, *Dougl.*	1	239
parviflora, *Hook.* (TAB. LXXVIII. A.)	1	239
TEPHROSIA, *Pers.*	1	138
Virginiana, *Pers.*	1	139

	VOL.	PAGE
TEREBINTHACEÆ, *Juss.*	1	126
TETRANTHERA, *Jacq.*	2	137
Californica, W. et A.	2	137
TEUCRIUM, *L.*	2	117
Canadense, *L.*	2	117
THALICTRUM, *L.*	1	2
anemonoides, *Mx.*	1	4
Canadense, Corn.	1	3
clavatum, *DC.*	1	2
Cornuti, *L.* (TAB. II.)	1	3
corynellum, DC.	1	3
diocium, *L.*	1	3
Japonicum, Thunb.	1	23
lævigatum, Mx.	1	3
pubescens, Pers.	1	3
purpurascens, *Br.*	1	3
revolutum, DC.?	1	3
THASPIUM, *Nutt.*	1	265
actæifolium, *Nutt.*	1	265
aureum, *Nutt.*	1	260
THERMOPSIS, *Br.*	1	128
fabacea, *DC.*	1	128
lanceolata, *Br.*	1	128
rhombifolia, *Nutt.* (TAB. XLVII.)	1	128
Thesium umbellatum, L.	2	139
THLASPI, *L.*	1	58
alpestre, *L.*	1	58
alpinum, Jacq.	1	58
arvense, *L.*	1	58
Bursa Pastoris, Pursh,	1	69
cochleariforme, *DC.*	1	58
montanum, *L.*	1	58
præcox, Wulf.	1	58
THUJA, *L.*	2	165
excelsa, Bong.	2	165
gigantea, *Nutt.*	2	165
Menziesii, Dougl.	2	165
occidentalis, *L.*	2	165
plicata, Lamb.	2	165
sphæroidalis, Rich.	2	165
THYMELEÆ, *Juss.*	2	138
THYSANOCARPUS, *Hook.*	1	69
curvipes, *Hook.* (TAB. XVIII. A.)	1	69
TIARELLA, *L.*	1	238
colorans, Grah.	1	236
cordifolia, *L.*	1	238
laciniata, *Hook.* (TAB. LXXVII.)	1	239
? Menziesii, *Pursh,*	1	238
Menziesii ? Pursh,	1	237
triandra, Dougl.	1	237
trifoliata, *L.*	1	238
unifoliata, *Hook.* (TAB. LXXXI.)	1	238
Tigarea tridentata, Pursh,	1	170
TILIACEÆ, *Juss.*	1	108
TILIA, *L.*	1	108
Americana, L.	1	108
Americana, Walt.	1	109
Canadensis, Mx.	1	108
glabra, *Vent.*	1	108
pubescens, *Ait.*	1	108
TOFIELDIA, *Huds.*	2	179
borealis, Cham.	2	179
borealis, Wahl.	2	179
coccinea, *Rich.*	2	179
glutinosa, *Pursh,* (TAB. CXCI.)	2	179
palustris, *Huds.*	2	179
pusilla ? Pursh,	2	179
TOLMIEA, *Hook.*	2	44
occidentalis, *Hook.*	2	45
TOWNSENDIA, *Hook.*	2	16
sericea, *Rich.* (TAB. CXIX.)	2	16
Trachynotis polystachya, Mx.	2	242
TRADESCANTIA, *L.*	2	167
Virginica, *L.*	2	167
Trichochloa glomerata, Trin.	2	237
calycina, Trin.	2	237
Trichodine laxiflora, Mx.	2	240
Trichodium decumbens, Mx.	2	240
scabrum, Muhl.	2	240
Trichophorum alpinum, Pursh,	2	230
cyperinum, Pers.	2	230
Hudsonianum, Nutt.	2	230
TRICHOPHYLLUM, *Nutt.*	1	315
integrifolium, *Hook.*	1	316
lanatum, *Nutt.*	1	315
TRICHOSTEMMA, *L.*	2	117
dichotomum, *L.*	2	117
lanceolatum, *Benth.*	2	117
oblongum, *Benth.*	2	117
TRIENTALIS, *L.*	2	121
arctica, *Fisch.*	2	121
Americana, *Pursh,*	2	121
Europæa, Cham.	2	121
Europæa, var. Mx.	2	121

	VOL.	PAGE
latifolia, *Hook.*	2	121
TRIFOLIUM, *L.*	1	130
altissimum, *Dougl.* (TAB. XLVIII.)	1	130
arvense, *L.*	1	131
cyathiferum, *Lindl.* (TAB. L.)	1	133
fimbriatum, *Lindl.*	1	133
involucratum, *Willd.*	1	133
megacephalum, *Nutt.*	1	132
microcephalum, *Pursh,*	1	132
officinale, L.	1	130
Pennsylvanicum, *Willd.*	1	131
plumosum, *Dougl.* (TAB. XLIX.)	1	130
pratense, *L.*	1	131
repens, *L.*	1	132
spinulosum, *Dougl.*	1	133
tridentatum, Lindl.	1	133
Willdenovii, Spr.	1	133
TRIGLOCHIN, *L.*	2	168
maritimum, *L.*	2	168
palustre, *L.*	2	168
TRILLIUM, *L.*	2	180
cernuum, *L.*	2	180
erectum, *L.*	2	180
erythrocarpum, *Mx.*	2	180
erythrocarpum, Bot. Mag.	2	180
grandiflorum, *Salisb.*	2	180
Kamtschaticum, Pall.	2	180
obovatum, *Pursh,*	2	180
ovatum, *Pursh,*	2	180
pendulum, Willd.	2	180
petiolatum, *Pursh,* (TAB. CXCII.)	2	180
pictum, Pursh,	2	180
rhomboideum, Mx.	2	180
rhomboideum, var. Mx.	2	180
Triodia melicoides, Spreng.	2	241
Triphora pendula, Nutt.	2	202
TRIPOLIUM, *Dod.*	2	15
angustum, *Lindl.*	2	15
pauciflorum, *Nees,*	2	15
TRISETUM, *Br.*	2	243
airoides, R. et S.	2	243
mollis, Kth.	2	243
purpurascens, Torr.	2	244
subspicatum, *Beauv.*	2	243
TRITELEIA, *Hook.*	2	186
grandiflora, *Lindl.* (TAB. CXCVIII.)	2	186
TRITICUM, *L.*	2	254
caninum, *Schreb.*	2	254
junceum, *L.*	2	254
repens, *L.*	2	254
TROLLIUS, *L.*	1	23
Americanus, *Muhl.*	1	23
laxus, Salisb.	1	23
TROXIMON, *Nutt.*	1	300
aurantiacum, *Hook.* (TAB. CIV.)	1	300
glaucum, *Nutt.*	1	300
TURRITIS, *L.*	1	40
? diffusa, *Hook.*	1	41
glabra, *L.*	1	40
hirsuta, L.	1	42
lævigata, Willd.	1	43
mollis, *Hook.*	1	40
ovata, Pursh,	1	42
patula, *Grah.*	1	40
retrofacta, *Grah.*	1	41
sagittata, Rich.	1	42
stricta, *Grah.*	1	40
Tussilago corymbosa, Br.	1	307
frigida, L.	1	307
palmata, Ait.	1	307
sagittata, Pursh,	1	307
TYPHA, *L.*	2	170
latifolia, *L.*	2	170
UDORA, *Nutt.*	2	193
Canadensis, Nutt.	2	193
verticillata, *Spreng.*	2	193
ULMACEÆ, *Mirb.*	2	142
ULMUS, *L.*	2	142
Americana, *L.*	2	142
fulva, *Pursh,*	2	142
UMBELLIFERÆ, *L.*	1	257
Uncinia breviseta, Torr.	2	208
Uniola multiflora, Nutt.	2	254
spicata, L.	2	254
stricta, Torr.	2	254
Urachne brevicaudata, Trin.	2	236
Canadensis, Torr.	2	236
Urospermum Claytoni, Nutt.	1	271
hirsutum, Big.	1	272
URTICEÆ, *Juss.*	2	141
URTICA, *L.*	2	141
Canadensis, *L.*	2	141
capitata, L.?	2	142
cylindrica, L.	2	142

	VOL.	PAGE
dioica, *L.*	2	141
divaricata, L.	2	141
gracilis, *Ait.*	2	141
procera? Willd.	2	141
pumila, *L.*	2	141
urens, *L.*	2	141
UTRICULARIA, *L.*	2	118
cornuta, *Mx.*	2	118
intermedia, *Heyne,*	2	118
setacea, *Mx.*	2	118
vulgaris, *L.*	2	118
UVULARIA, *L.*	2	174
amplexifolia, L.	2	173
grandiflora, *Sm.*	2	175
lanceolata, Willd.	2	175
lanuginosa, *Pers.*	2	174
perfoliata, *L.*	2	174
perfoliata, major, *Mx.*	2	175
puberula, Rich.	2	174
puberula, Sm.	2	174
rosea, Pers.	2	173
sessilifolia, *L.*	2	175
Smithii, *Hook.* (TAB. CLXXXIX.)	2	174
VACCINIEÆ, *DC.*	2	31
VACCINIUM, *L.*	2	31
amœnum, Ait.	2	31
angustifolium, Ait.	2	32
cæspitosum, *Mx.* (TAB. CXXVI.)	2	33
Canadense, *Rich.*	2	32
corymbosum, *L.*	2	31
dimorphum, Mx.	2	31
hispidulum, Mx.	2	36
ligustrinum, L.	2	39
macrocarpum, *Ait.*	2	34
membranaceum, Dougl.	2	32
myrtilloides, *Mx.*	2	32
Myrtillus, *L.*	2	33
Myrtillus, var. Sm.	2	33
obtusum, *Pursh,*	2	34
ovalifolium, *Sm.* (TAB. CXXVII.)	2	32
ovatum, *Pursh,*	2	33
Oxycoccos, *L.*	2	34
Oxycoccos, β. Mx.	2	34
parvifolium, *Sm.* (TAB. CXXVIII.)	2	33
Pennsylvanicum, *Lam.*	2	32
resinosum, *Ait.*	2	31
salicinum, *Cham.*	2	32
tenellum, Pursh,	2	32
uliginosum, *L.*	2	32
Vitis Idæa, *L.*	2	34
VALERIANA, *Neck.*	1	291
capitata, *Willd.*	1	292
pauciflora, *Mx.* (TAB. CI.)	1	291
sylvatica, *Banks,*	1	291
VALERIANEÆ, *DC.*	1	290
Valerianella congesta, Lindl.	1	291
parviflora, Dougl.	1	291
VALISNERIA, *L.*	2	192
Americana, Mx.	2	192
spiralis, *L.*	2	192
VERATRUM, *L.*	2	178
album, Mx.	2	178
Escholtzii, Gray,	2	178
Lobelianum, β. Sch.	2	178
luteum, *L.*	2	178
parviflorum, Bong.	2	178
viride, *Ait.*	2	178
VERBASCUM, *L.*	2	93
Blattaria, *L.*	2	94
Thapsus, *L.*	2	93
VERBENACEÆ, *Juss.*	2	117
VERBENA, *L.*	2	117
bracteosa, *Mx.*	2	117
hastata, *L.*	2	117
paniculata, *Lindl.*	2	117
urticæfolia, *L.*	2	118
VERNONIA, *Schreb.*	1	304
Noveboracensis, Willd.	1	304
prælta, *Willd.*	1	304
VERONICA, *L.*	2	101
alpina, *L.*	2	101
Anagallis, *L.*	2	101
Beccabunga, *L.*	2	101
Chamædrys, *L.*	2	101
nutans, *Bong.*	2	101
peregrina, *L.*	2	101
scutellata, *L.*	2	101
serpyllifolia, *L.*	2	101
Stelleri, *Pall.*	2	101
Wormskioldii, R. et S.	2	101
VESICARIA, *Lam.*	1	48
arctica, *Rich.*	1	48
arenosa, Rich.	1	48
didymocarpa, *Hook.* (TAB. XVI.)	1	49

	VOL.	PAGE
globosa? Desv.	1	48
Ludoviciana, *DC.*	1	48
VIBURNUM, *L.*	1	279
acerifolium, *L.*	1	280
dentatum, *L.*	1	280
dentatum, var. Mx.	1	280
dentatum, β. Ait.	1	280
edule, *Pursh,*	1	281
ellipticum, *Hook.*	1	280
grandifolium, Sm.	1	280
Lantana, β. Ait.	1	280
lantanoides, *Mx.*	1	280
Lentago, *L.*	1	279
molle, Mx.	1	281
nudum, *L.*	1	279
Opulus, var. Mx.	1	281
Opulus, β. Ait.	1	281
Opulus, β. Mx.	1	281
Oxycoccos, *Pursh,*	1	281
prunifolium, *L.*	1	279
pubescens, *Pursh,*	1	280
pyrifolium, Poir.	1	280
Rafinesquianum, R. et S.	1	280
squamatum, Willd.	1	280
VICIA, *Tourn.*	1	156
Americana, *Muhl.*	1	157
Caroliniana, *Walt.*	1	157
Cracca, *L.*	1	157
gigantea, *Hook.*	1	157
Mitchelli, Raf.	1	158
pusilla, Muhl.	1	158
sativa, L.	1	157
VILFA, *Beauv.*	2	238
algida, Trin.	2	238
arundinacea, Trin.	2	238
cuspidata, *Torr.*	2	237
depauperata, *Torr.* (TAB. CCXXXVI.)	2	257
monandra, Trin.	2	238
tenacissima, *H.B.K.*	2	239
VILLARSIA, *Vent.*	2	70
Crista galli, *Hook.*	2	70
pumila, *Hook.*	2	70
VIOLA, *Tourn.*	1	73
adunca, *Sm.*	1	79
affinis, Le Con.	1	75
asarifolia, *Pursh,*	1	75
asarifolia, Muhl.	1	78
bicolor, Pursh,	1	81
blanda, *Willd.*	1	76
Canadensis, *L.*	1	80
canina, *L.*	1	79
canina, Walt.	1	78
clandestina, *Pursh,*	1	77
congener? Le Con.	1	75
cucullata, *Ait.*	1	75
debilis, Pursh,	1	78
digitata, Pursh,	1	74
eriocarpa, Schwein.	1	80
glareosa, Dougl.	1	79
lanceolata, *L.*	1	76
Langsdorffii, *Fisch.*	1	77
Muhlenbergiana, *Ging.*	1	78
Muhlenbergiana, Torr.	1	78
Nuttallii, *Pursh,* (TAB. XXVI.)	1	79
ochroleuca, *Hook.*	1	77
obliqua, Ait.	1	75
ovata, *Nutt.*	1	76
palmata, *L.*	1	74
papilionacea, Pursh,	1	75
pedata, *L.*	1	74
Pennsylvanica, Mx.	1	80
pinnata, Rich.	1	74
præmorsa, *Dougl.*	1	80
primulæfolia, Pursh,	1	76
pubescens, *Ait.*	1	80
punctata, Schwein.	1	78
repens, Schwein.	1	78
rostrata, *Pursh,*	1	79
rotundifolia, *Mx.*	1	77
sarmentosa, *Dougl.*	1	80
Selkirkii, *Gold.*	1	75
sororia, Pursh,	1	75
striata, Ait.	1	78
tenella, Schwein.	1	81
tricolor, *L.*	1	81
uliginosa, Muhl.	1	78
VIOLARIEÆ, *DC.*	1	73
Virgilia helenioides, L'Hérit.	1	315
Viscum Oxycedri, DC.	1	278
VITIS, *L.*	1	115
cordifolia, Mx.	1	115
hederacea, Willd.	1	114
Labrusca, *L.*	1	115

	VOL.	PAGE
quinquefolia, Lam.	1	114
riparia, *Mx.*	1	115
vulpina, *L.*	1	115
Waldsteinia fragarioides, Tratt.	1	177
Warneria, Mill.	1	9
WOODSIA, *Br.*	2	259
glabella, *Br.* (TAB. CCXXXVII.)	2	259
hyperborea, *Br.*	2	259
Ilvensis, *Br.*	2	259
Perrinniana, H. et G.	2	260
WULFENIA, *Jacq.*	2	102
reniformis, *Benth.* (TAB. CLXI.)	2	102
XANTHIUM, *L.*	1	308
Canadense, *Spr.*	1	308
maculatum, Raf.	1	308
XANTHOXYLUM, *Humb.*	1	118
fraxineum, *Willd.*	1	118
ramiflorum, Mx.	1	118
tricarpum, *Mx.*	1	118
XEROPHYLLUM, *Mx.*	2	178
setifolium, Lindl.	2	178
tenax, *Pursh*,	2	178
Xylosteum ciliatum, Pursh,	1	283
ciliatum, β. Pursh,	1	283
oblongifolium, Gold.	1	283
Solonis, Ait.	1	283
Tataricum, Mx.	1	283
villosum, Mx.	1	283
ZANNICHELLIA, *L.*	2	170
palustris, *L.*	2	170
ZIGADENUS, *Mx.*	2	177
chloranthus, *Rich.*	2	177
commutatus, Schult.	2	177
elegans, *Pursh*,	2	178
glaberrimus, H. et A.	2	177
glaberrimus, Ker,	2	177
glaucus, *Nutt.*	2	178
speciosus, Dougl.	2	177
Zizania aquatica, L.	2	233
clavulósa, Mx.	2	233
fluitans, Mx.	2	233
palustris, L.	2	233
ZIZIA, *Koch*,	1	260
aurea, *Koch*,	1	260
cordata, *Koch*,	1	260
Ziziphora glabella, R. et S.	2	114
Mariana, R. et S.	2	114
pulegioides, R. et S.	2	114

THE END OF VOLUME II.

GLASGOW:—EDWARD KHULL, PRINTER TO THE UNIVERSITY, DUNLOP STREET.

Cavanilles del.

Swan.

Sigesbeckia Orientalis

Brigeria undulata

W. Hodges ad nat. pinx.

Dania angustifolia

Campanula Trachelium

Vaccinium caesium

W.H. del.

TAB. CXXVII

Vaccinium ovalifolium

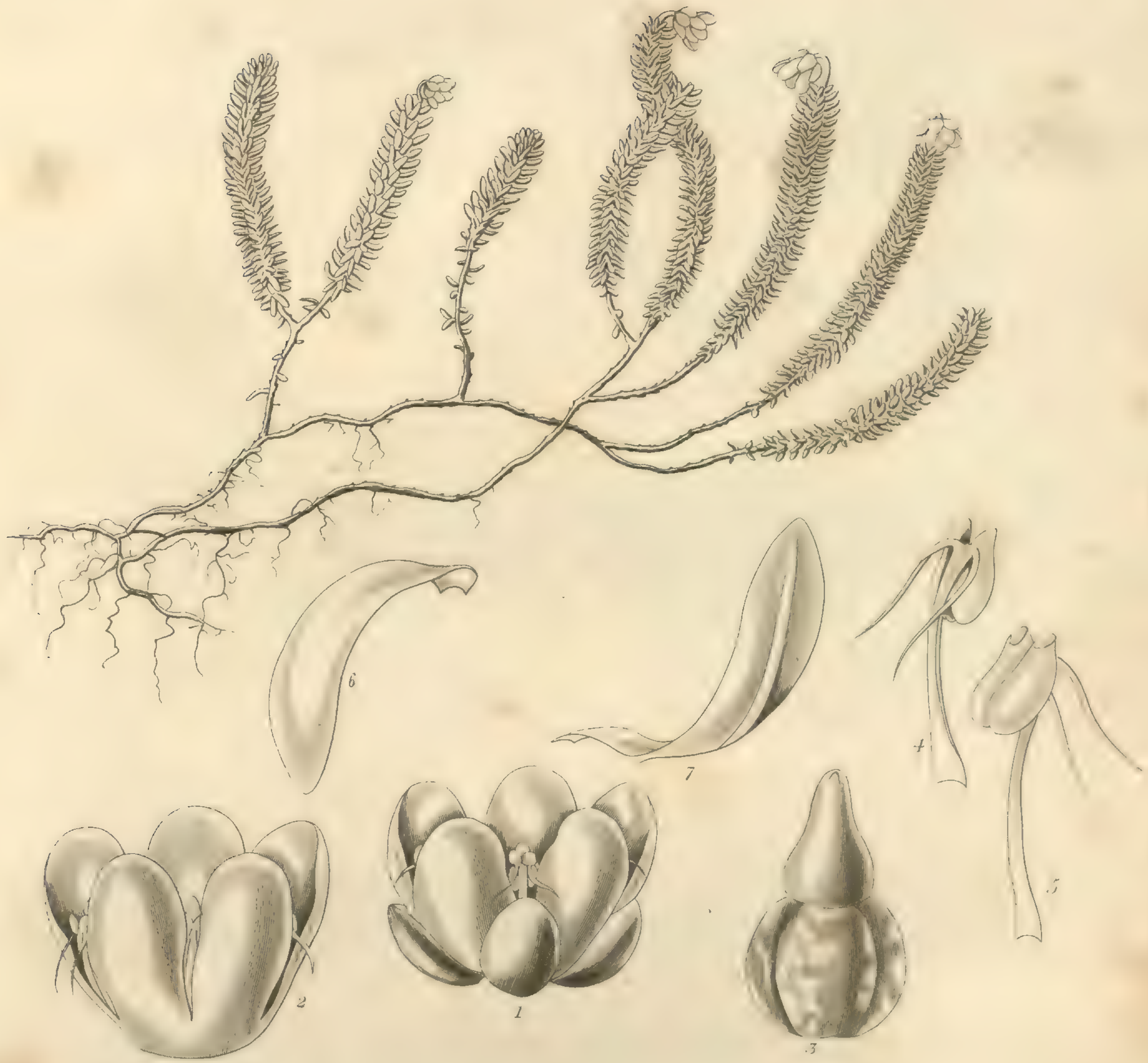
Vaccinium parvifolium

Gaultheria. Myrsinites

W.J.H. del.t

Swan Sc

Arbutus tomentosa.



W. J. H. del.

Andromeda Stelleriana.

Swan. sc.

Mengea glandulifera

TAB. CXXXVIII

Rhododendron albiflorum

W.J.H del!

Swan Sc

TAB. CXXXIV

Lupulo chlorantho

W. Hodgetts

Swan Sc.

W.H. del.

W.J.H del.

Schizophilus Mexicanus

TAB CXXXIX.

Apocynum Cyberniifolium

TAB CXLI.

Asclepias variegata. L.

Asclepias Douglasii

Asclepias viridiflora

TAB CXLII.

Asclepias verticillata

TAB CXLV

Centaurea Cyclamen

TAB CXLVI

Gentiana adjuga

Gentiana glauca

TAB CXLVIII

A Menzies Esq del

Lupinus Douglasianus

Gentiana verticillata

2 *Gentiana purpurea*

Cynosurus cristatus

TAB CLII

TAB CLIII

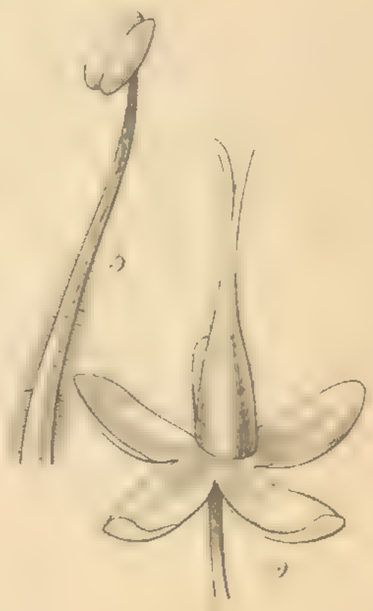
2

Grevillea speciosa

Frasera alburnuli

Silene Chamarense

Silene heterantha



Cirsium arvense

TAB CLII.

TAB CLXII

Hyssopus glomerata

Hyacinthus orientalis

Bifrenaria flavida Lind.

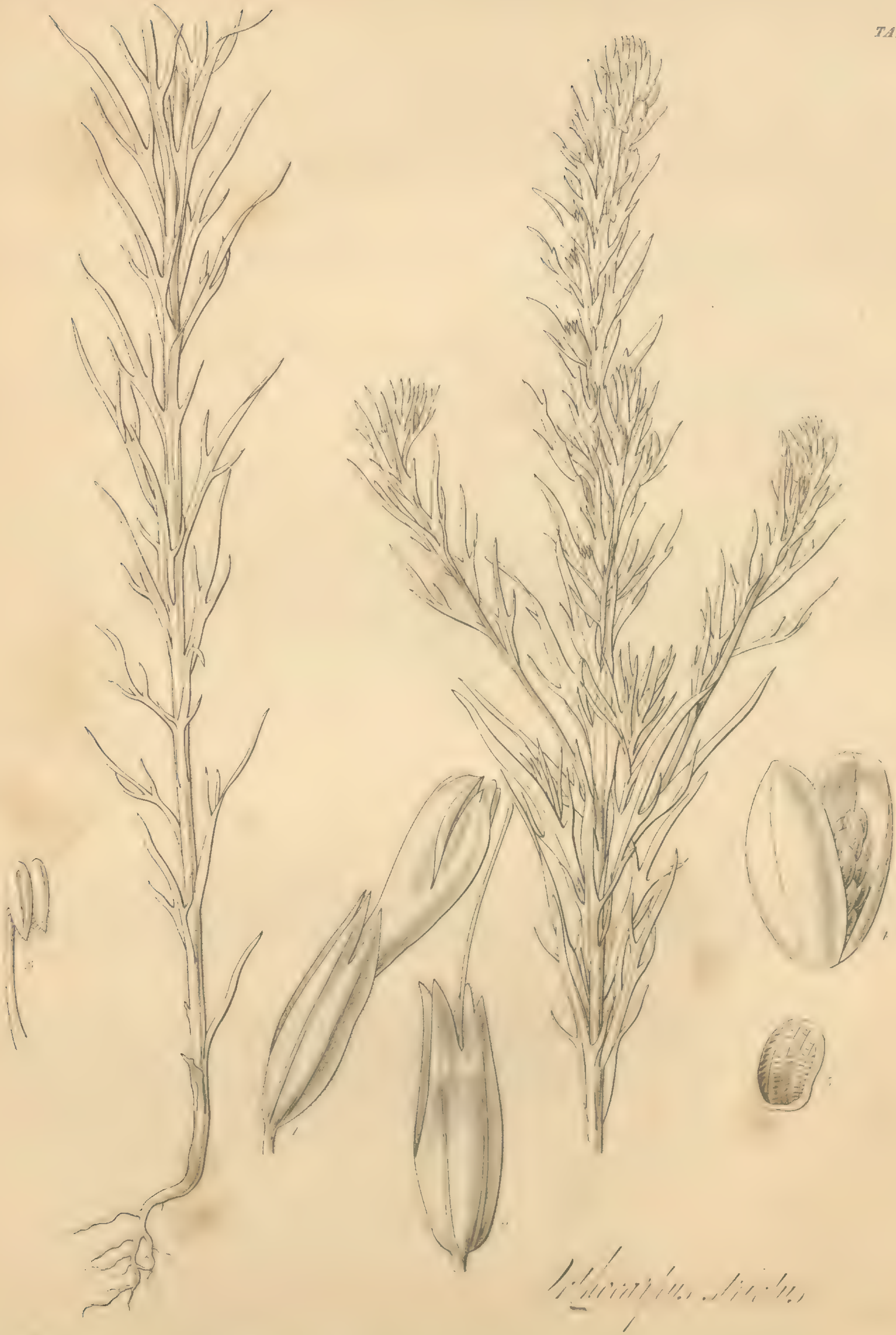
Lithospermum incisum.

Chrysanthemum Mandalonense

Trichomanes tuberosum

Lichenora fascicularis

Cynoglossum officinale



TAB CLXXIV.

CUCUMIS VENOSUS.

TAB CLXXV

TAB CLXXVI

Eriogonum crassifolium

TAB. CLXXVII

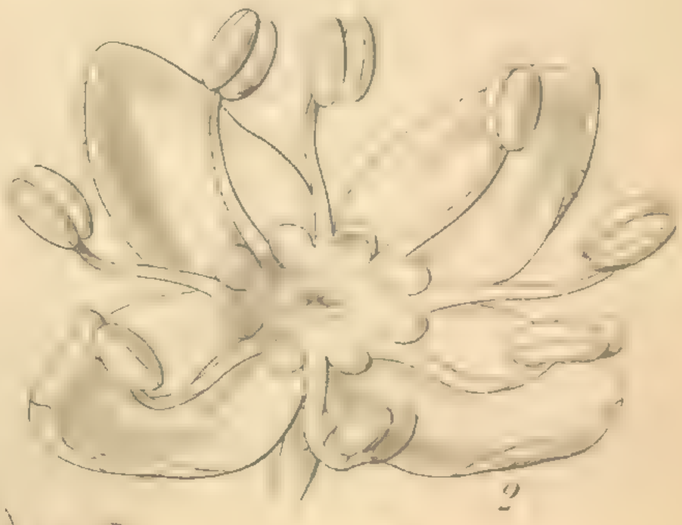
TAB CLXXVIII

B

+

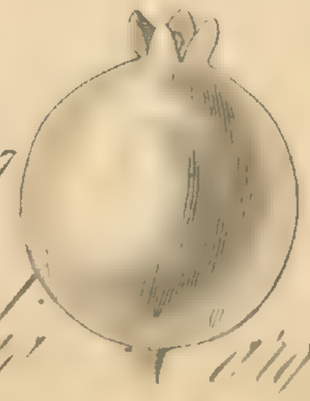
A

1


2

3

6


7

8

9

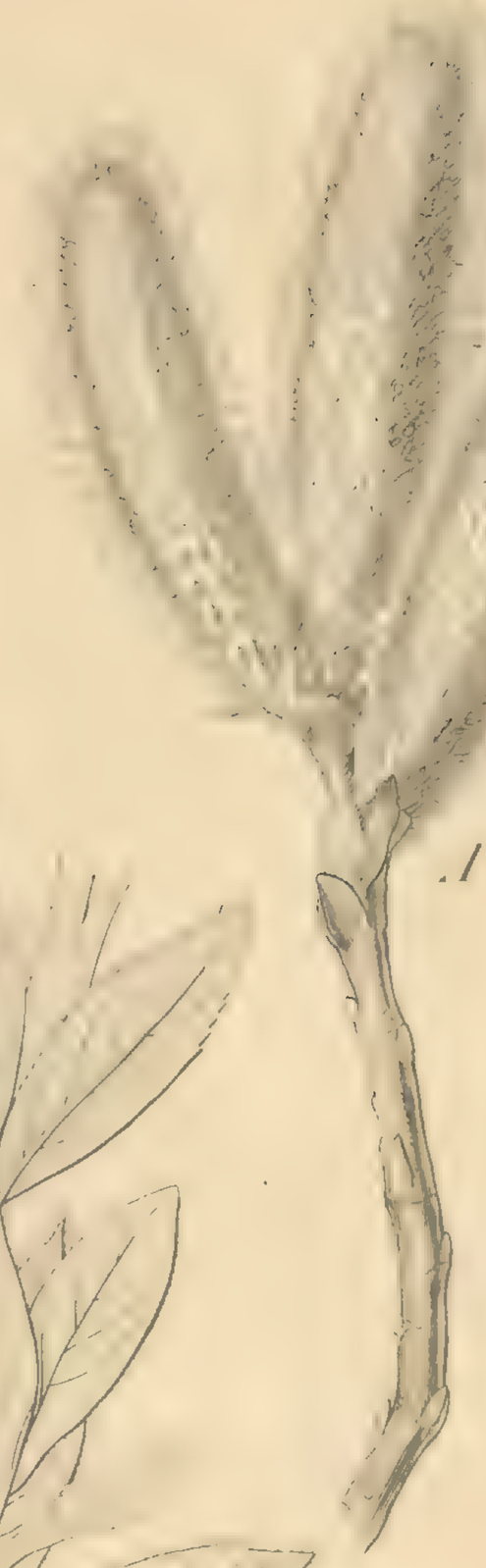
Cephalanthus occidentalis

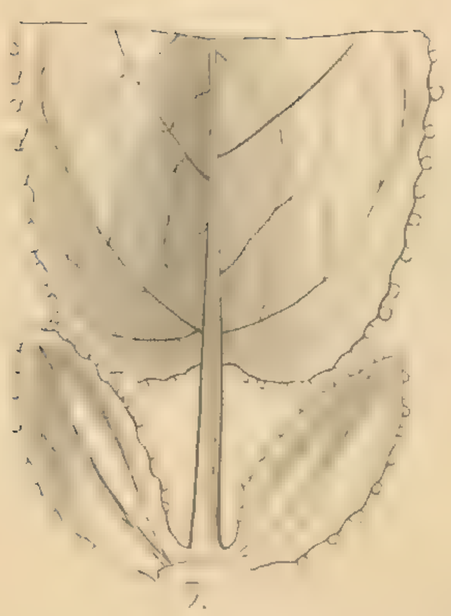
Brunsvigia umbellata

Brunsvigia Josephinæ

TAB CLXV.

Salix Babylonica





Salix. Barraliana

Tillx. Richardson.

TAB. CLXVII

TAB. CLXXXIII.

Pinus Douglasii

Naja Sanctima.

Swan Sc

Tricostylus graminea

TAB. CLXXIV.

TAB. CLXXXVII.

Smilax basicneuron

Nepenthes distincta.

TAB. CLXXXIX.

Calanthe Smithii

TAB CXC

TAB CXCI.

. Trillium petiolatum.

TAB. CXCIII

B

5

Fritillaria lanceolata.

F. Kamtschatcensis

TAB. CXCIV.

Allium stellatum

Allium reticulatum.

TAB. CXCVI.

TAB CXCVII

TAB. CXCVIII

Triteleia hyacinthina.

Triteleia grandiflora

TAB. CXCIX.

Calanthera Alnifolia.

TAB CCII.

Epipactis gigantea!

Amer.

TAB. CCIII.

ZIBOW
Jiranthes dentata.

Listera convallarioides

Carex Hepburnii

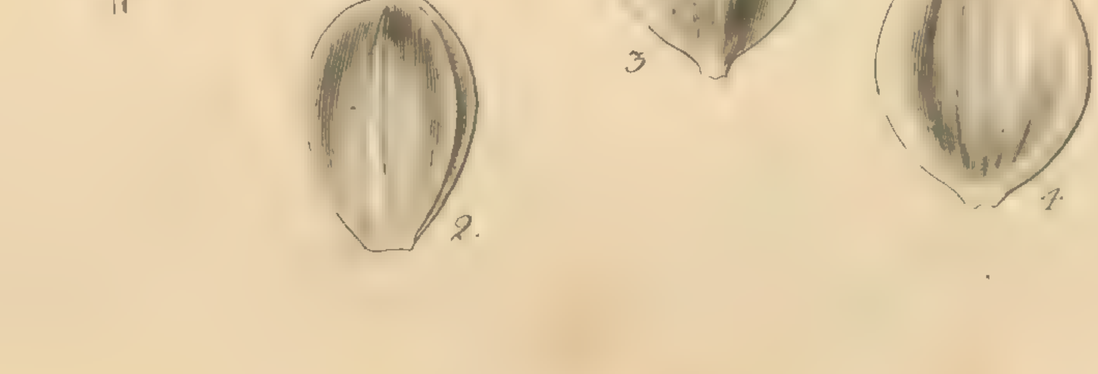
TAB CCVIII.

Carex Pyrenaica.

TAB CCIX

Carex Leersii

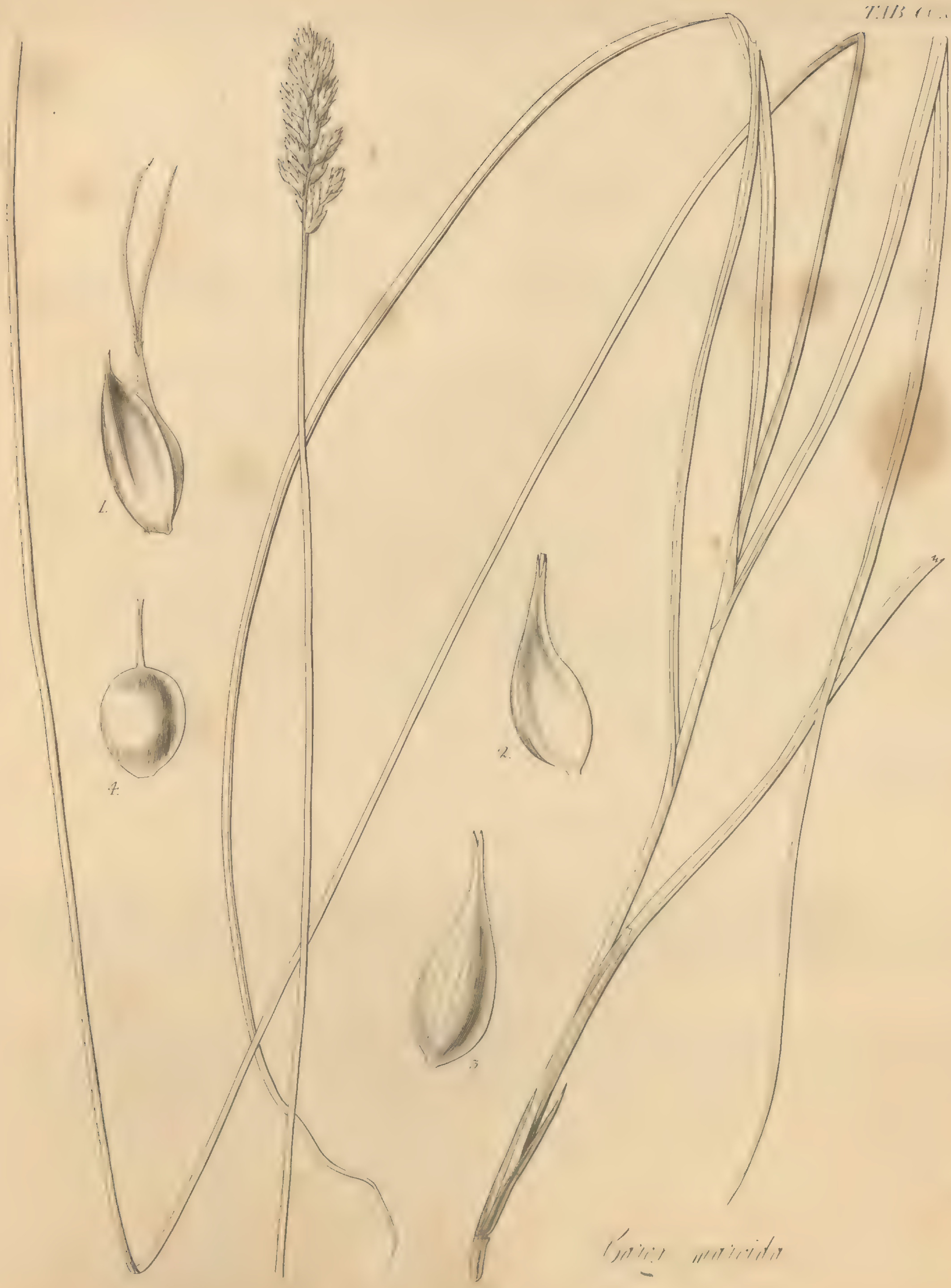
TABLE XV.



Carex vitina.

TAB CCXI.

TAB CCXII.


1.
4.
2.
3.
Carex maritima

Lilium Douglasii.

Curtis _ Pinxit.

TAB CCXVII.

TAB CCXVIII.

Carex Franklinii.

TAB CCXX.

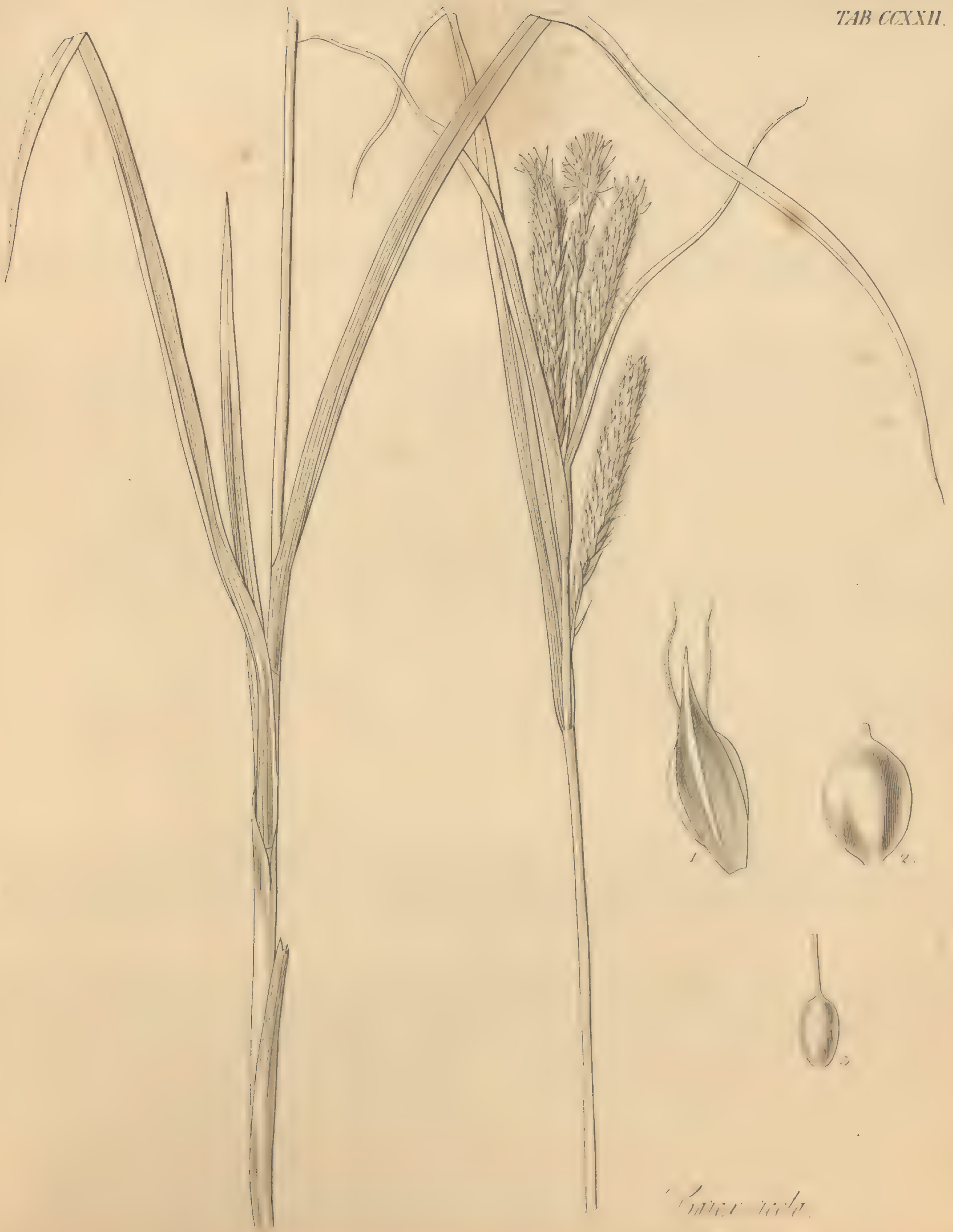
TAB CCXXI

1

2

3

TAB CCXXII.



TAB CCXXIII.

Carex Richardsoni.

Swan Sc

TAB CCXXIV.

Carex pedocarpa.

TAB CCXVI.

Bauer del. Sowerby sc.

TAB CCXVI

Carex amplifolia.

TAB CCXXVII.

Aira latifolia

TAB CCXXVIII

TAB CCXXIX

Glyceria aretica Swan S.

TAB CCXXX.

Pistia Stratiotes

TAB CCXXXI

TAB CCXXII

Swan Sc

TAB CCXXXIII

TAB CCXXXV

Cenatorhloa grandiflora

Vilfa depauperata.

Sowerby del.

TAB CCXXXVII.

Woodsia glabella.

Swan Sc

TAB CCXXXVIII.

Lycopodium sabinæfolium

Swan. Sc.